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Bureau of Land Management
Rock Springs District Office

Green River Resource Area

March 1996

Green River Resource Area Resource Management Plan and Final Environmental Impact Statement Volume 2 of 2



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APPENDIX 1-1

PLANNING PROCESS DESCRIPTION

Step 1: Identification of Issues

Step 1 is intended to identify resource management problems, conflicts, or opportunities that can be resolved through the planning process.

Several public notices were published and open houses were held to gain public input into identifying land and resource use management problems, conflicts, or opportunities in the resource area. Along with the general public, other federal agencies, and state and local governments were also asked to participate in the issue identification process. The BLM combined the information from these and internal sources into four planning issues that could be resolved through the RMP EIS process. The issues were published and distributed to interested parties. More detailed information on public participation can be found in Chapter 5.

Step 2: Development of Planning Criteria

Step 2 involves development of criteria to identify the standards, guidelines, and constraints that would apply to the planning process. These criteria are the "sideboards" that were applied by the planning team resource specialists so that their work was focused on resolution of the issues. The original criteria were made available to interested parties for review. Criteria were revised as the planning issues were defined.

Step 3: Inventory and Data Collection

Step 3 allows for the collection of various kinds of issue-related resource, environmental, social, and economic data. During this phase, information was collected on range conditions, and data on wildlife habitat and watershed conditions were collected. Information was also obtained from grazing lessees regarding management opportunities and typical operations of individual ranches and minerals industry regarding mineral potential. Existing information was used for all other aspects of the planning effort.

Step 4: Analysis of the Management Situation

The analysis of the management situation (MSA) supports all subsequent steps in planning. Each specialist on the interdisciplinary team was involved in preparing the three sections of the MSA. The sections include: a physical profile and brief description of each resource; the current management situation which describes current management practices by resource and the status of on-going programs. This section provides the basis for the description of the No Action alternative and the basis for identifying the planning issues; and the analysis of future demands which identifies present and future resource and land demands, capabilities, and problems and

conflicts of current management. The MSA is on file at the Green River Resource Area Office.

Step 5: Formulation of Alternatives

Four alternatives were developed by the interdisciplinary team. These alternatives, described in Chapter 2, include the Preferred Alternative, Alternative A or No Action (continuation of current management), and Alternatives B and C. The alternatives represent variations of levels of resource use and environmental protection while providing means of resolving the issues.

Step 6: Analysis of Environmental Consequences of Alternatives

The physical, biological, social, and economic effects of implementing each alternative are assessed. This step is the environmental impact analysis required by NEPA. The analysis is presented in Chapter 4.

Step 7: Selection of the Preferred Management Plan

Selection of the preferred management plan was based on public input and coordination, current BLM management policies and directions, and analysis of the impacts of each alternative. A combination of parts of Alternatives A, B, and C was selected as the preferred management plan because it is believed to offer the best balance of land management decisions for resolving the issues of the resource area in the public interest.

Step 8: Selection of the Proposed Resource Management Plan

Based on the result of public review and comment, a proposed resource management plan will be selected and published with a final EIS. The selection and approval of the resource management plan is made after a 30-day protest period on the proposed plan. Any person who participated in the planning process and who has an interest which is or may be adversely affected by adoption of the plan may protest its approval. A protest may raise only those issues which were submitted for the record during the planning process.

Step 9: Monitoring and Evaluation

This step involves monitoring the selected plan, after it is implemented, and evaluating the results of the implementation. Data on long-term trends and resource conditions will be collected and analyzed to determine the effectiveness of the plan. Monitoring may result in revisions to the plan.

APPENDIX 1-2

GENERAL CRITERIA AND CONSIDERATIONS FOR ALTERNATIVE FORMULATION

The following factors will be considered in one or more of the alternatives of the Green River RMP/EIS:

Management emphasis for and possible designation of areas nominated as special management areas, including ACECs.

Fire management and fire suppression options.

Intensive management of cultural and historic resources, including rock art occurrences and historic trails.

Various types and levels of vegetation uses, including timber harvest, wildlife habitat, watershed protection, livestock grazing, etc.

Minerals exploration and development, authorizations related to rights-of-way and other lands and realty actions, off-road vehicle use, and other activities that may result in surface disturbance.

Opportunities for land disposal or acquisition that could be useful in meeting goals for resource manageability and condition.

Acquisition of access to provide reasonable levels of resource uses for the public and for resource development and manageability.

Management objectives and direction for BLM administered public lands on which BLM withdrawals may be terminated in the future.

Recommendation of protective withdrawals needed to improve resource manageability.

Identification of right-of-way corridors, exclusion areas, and avoidance areas to provide for development needs and protection of resource values.

Various levels of livestock grazing.

Management of recreational use and designation of special recreation management areas (SRMAs).

Protecting unique and nonrenewable geological, cultural, paleontological, and recreational values.

Management options for protecting or enhancing wetlands and riparian areas.

Maintaining various numbers of wild horses.

The big game population goals of the Wyoming Game and Fish Department (WGFD).

Protection and enhancement of habitat for sensitive or important wildlife and plant species.

Protection of recovery habitat and essential habitat for threatened or endangered wildlife and plant species.

Criteria for Effects to be Considered

The following types of effects should be addressed in identifying and analyzing the environmental consequences of the planning alternatives:

Effects of maintaining or reducing wild horse herd sizes.

Effects on land and resource uses from retention or termination of existing BLM withdrawals and other BLM-administered land use classifications and segregations.

Effects of surface-disturbing land uses and other human activities on air quality, cultural resources, recreational opportunities, watershed, and wildlife resources.

Effects caused by livestock grazing, disposal or acquisition of land, pesticide use, and use of or restrictions on ORV use.

Effects of fencing on antelope movement and migration.

Effects of all types of land and resource uses on the vegetation resource.

Economic impacts of land use restrictions on economic sectors that are heavily dependent on the use of public lands and resources (for example, minerals exploration and development, timber harvesting, livestock grazing, and recreation activities).

Effects in all alternatives generally use existing data for analysis.

Criteria for Selection of the Preferred Alternative

Answers to the following questions will be used to guide selection of the preferred alternative:

Do the alternatives meet guidelines for reduction of sedimentation and salinity, as stated in water quality plans of the State of Wyoming and the Environmental Protection Agency (EPA)?

What levels of land use restrictions are needed to provide adequate protection of resource values?

Do the alternatives retain reasonable accessibility of public lands for purposes of public access, public land use, and resource development?

In proposing resource allocations that would affect the availability of lands for mineral development, has the BLM considered the potential of those lands for occurrence and development of energy and mineral resources?

Are the alternatives consistent with plans, programs, and policies of other federal agencies, state and local governments, and Indian tribes?

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APPENDIX 1-3

ACEC CRITERIA

As part of the process for developing the Green River Resource Management Plan, BLM planning team members reviewed all BLM-administered public lands in the planning area to determine if any areas should be considered for designation as Areas of Critical Environmental Concern (ACEC) or if any existing ACEC designations should be modified or terminated. Only BLM-administered public lands (i.e., public land "surface") can be considered for ACEC designation.

To be eligible for designation as an ACEC, an area must meet the relevance and importance criteria described in 43 CFR 1610.7-2 and BLM Manual 1613.

Relevance and Importance are defined as follows:

(1) Relevance. There shall be present a significant historic, cultural, or scenic value; a fish or wildlife resource or other natural system or process; or natural hazard.

(2) Importance. The above described value, resource, system, process, or hazard shall have substantial significance and values. This generally requires qualities of more than local significance and special worth, consequence, meaning, distinctiveness, or cause for concern. A natural hazard can be important if it is a significant threat to life or property.

An area meets the "relevance" criterion if it contains one or more of the following:

1. A significant historic, cultural, or scenic value (including but not limited to rare or sensitive archeological resources and religious or cultural resources important to Native Americans).
2. A fish and wildlife resource (including but not limited to habitat for endangered, sensitive, or threatened species, or habitat essential for maintaining species diversity).
3. A natural process or system (including but not limited to endangered, nonsensitive, or threatened plant species; rare, endemic, or relic plants or plant communities which are terrestrial, aquatic, or riparian; or rare geological features).
4. Natural hazards (including but not limited to areas of avalanche, dangerous flooding, landslides, unstable soils, seismic activity,

or dangerous cliffs). A hazard caused by human action may meet the relevance criteria if it is determined through the resource management planning process that it has become part of a natural process.

An area meets the "importance" criterion, if it further meets one or more of the following:

1. Has more than locally significant qualities which give it special worth, consequence, meaning, distinctiveness, or cause for concern, especially compared to any similar resource.
2. Has qualities or circumstances that make it fragile, sensitive, rare, irreplaceable, exemplary, unique, endangered, threatened, or vulnerable to adverse change.
3. Has been recognized as warranting protection in order to satisfy national priority concerns or to carry out the mandates of FLPMA.
4. Has qualities which warrant highlighting in order to satisfy public or management concerns about safety and public welfare.
5. Poses a significant threat to human life and safety or to property.

Table A1-3-1 shows the areas that were identified in the review and the BLM relevance and importance determinations that were made.

The Green River RMP Interdisciplinary Team identified seven existing ACECs, potential expansions to three of the existing ACECs, and eleven potential new ACECs, to be addressed during the Green River RMP planning effort.

Of the 21 areas and expansions reviewed, the BLM-administered lands on four areas were found to not meet the criteria and were dropped from further consideration. Identification was deferred on one area, until a more complete review could be conducted. The BLM-administered lands on the seven existing ACECs were found to meet the criteria and were retained. Based on the criteria, expansions were recommended for two of those. Three of the 11 potential new ACECs were also found to meet the criteria and were recommended in the Proposed Plan of the Final EIS. One of the three proposed ACECs includes the four candidate plant areas recommended in the Draft EIS.

TABLE A1-3-1
EVALUATION OF ACEC RELEVANCE AND IMPORTANCE CRITERIA

EXISTING OR PROPOSED ACECs	RELEVANCE CRITERIA (resources)	IMPORTANCE CRITERIA	RECOMMENDED	COMMENTS
BIG SANDY RIVER (Proposed-1 mile)	Criterion 1	no	no	Meets relevance criteria for historic values. The area did not meet the importance criteria.
CEDAR CANYON (Existing)	Criteria 1,2,3	Criteria 1,2,3	yes	Meets the relevance and importance criteria for cultural, raptor, and wildlife values, as identified when originally designated an ACEC. The ACEC designation should be retained.
GREATER RED CREEK (Existing and proposed expansion, formerly Tri-State Monument)	Criteria 1,2,3,4	Criteria 1,2,3	yes	Meets the relevance and importance criteria for unstable fragile soils, unique ecological features, watershed and cultural values, and sensitive species of regional, national and international importance. The values of the existing Red Creek ACEC remain the same as identified when Red Creek was originally designated an ACEC. The ACEC designation should be retained and should be expanded to include the Sage Creek and Currant Creek drainages.
GREATER SAND DUNES (Existing)	Criteria 1,2,3	Criteria 1,2,3,4	yes	Meets the relevance and importance criteria for outstanding geologic features, prehistoric and historic values of national significance, and recreation values of regional/national importance as identified when originally designated an ACEC. The ACEC designation should be retained.
KNOWN SODIUM LEASING AREA (Proposed)	Deferred	Deferred	deferred	Public comment on the RMP Draft EIS recommended consideration of the KSLA for ACEC designation due to an outstanding mineral of regional/national importance. However, the potential for ACEC designation should consider the entire KSLA as a whole and most of the area is within the Kemmerer Resource Area. This area would be deferred for special study and analyzed separately from this document.

TABLE A1-3-1 (Continued)
EVALUATION OF ACEC RELEVANCE AND IMPORTANCE CRITERIA

EXISTING OR PROPOSED ACECs	RELEVANCE CRITERIA		IMPORTANCE CRITERIA		RECOMMENDED	COMMENTS
	(resources)					
MONUMENT VALLEY (Proposed)	deferred		deferred		deferred	Potentially outstanding geologic features, prehistoric and historic values of national significance, recreation values. Further information would be obtained on the actual values present and their relevance and importance.
NATURAL CORRALS (Existing)	Criteria 1,3		Criteria 1,2		yes	Meets the relevance and importance criteria for unique volcanic monoliths, prehistoric values of national significance, and outstanding recreation opportunities as identified when the area was originally designated an ACEC. The ACEC designation should be retained.
NATURAL CORRALS EXPANSION (Proposed)	no		no		no	Public comment requested that we look at expanding the ACEC. However, the highest value resources were determined to be found within the existing ACEC boundary, and the expansion area did not meet relevance and importance criteria. Also, much of the area identified for expansion is private land and not under administrative jurisdiction of the BLM.
NORTH AND SOUTH TABLE MOUNTAINS (Proposed)	Criteria 1,3		Criteria 1,2		no	The values in this area do not need special emphasis to be effectively managed.
OREGON BUTTES (Existing)	Criteria 1,3		Criteria 1,2		yes	Meets the relevance and importance criteria for historic values and geologic landmark of national significance as identified when the area was originally designated an ACEC. The ACEC designation should be retained.
PINE SPRINGS (Existing)	Criterion 1		Criteria 1,2		yes	Meets the relevance and importance criteria for cultural values of national significance as identified when the area was originally designated an ACEC. The ACEC designation should be retained.

TABLE A1-3-1 (Continued)
EVALUATION OF ACEC RELEVANCE AND IMPORTANCE CRITERIA

EXISTING OR PROPOSED ACECs	RELEVANCE CRITERIA (resources)	IMPORTANCE CRITERIA	RECOMMENDED	COMMENTS
PINE SPRINGS EXPANSION (Proposed)	Criterion 1	Criteria 1,2	yes	Meets the relevance and importance criterion for cultural values of national significance. The ACEC designation for Pine Springs should be expanded to include this area.
PLAYA LAKE AREAS (Proposed)	Criterion 1	no	no	The area did not have more than local significance and did not meet the importance criteria. The values in this area do not need special emphasis and to be effectively managed.
RED DESERT WATERSHED (Proposed)	Criteria 1,3	no	no	The area did not meet the importance criteria. Where values need special management emphasis, this has been provided. However, the area as a unit, does not need special emphasis to be effectively managed.
RIPARIAN AREAS (Proposed)	Criteria 2,3	Criteria 2,3	no	The values in these areas already receive special management emphasis through various Bureau programs and the ACEC designation is unnecessary.
SOUTH PASS HISTORIC LANDSCAPE (Proposed)	Criterion 1	Criteria 1,2,3	yes	Meets the relevance and importance criteria for historic and scenic values of national significance, and for outstanding geographic features. The values in this area need special emphasis to be effectively managed.
SPECIAL STATUS (CANDIDATE) PLANT SPECIES (proposed): <i>Arabis pusilla</i> <i>Astragalus proimanthus</i> <i>Descurainia torulosa</i> <i>Thelesperma pubescens</i>	Criterion 3	Criteria 1,2,3	yes	Meets the relevance criteria for natural processes or systems and importance criteria of more than local significant qualities, fragile, sensitive, rare and vulnerable to adverse change, and warrants protection to satisfy national priority concerns and carry out the mandates of FLPMA. The values in this area need special emphasis to be effectively managed. <i>Arabis pusilla</i> is proposed for listing as a Threatened and Endangered species.

TABLE A1-3-1 (Continued)
EVALUATION OF ACEC RELEVANCE AND IMPORTANCE CRITERIA

EXISTING OR PROPOSED ACECs	RELEVANCE CRITERIA (resources)	IMPORTANCE CRITERIA	RECOMMENDED	COMMENTS
STEAMBOAT MOUNTAIN (Proposed)	Criteria 1,2,3	Criteria 1,2	yes	Meets the relevance and importance criteria for wildlife and cultural values of national significance. Unique habitat features found nowhere else in the Resource Area. The values in this area need special emphasis to be effectively managed.
WHITE MOUNTAIN PETROGLYPHS (Existing)	Criterion 1	Criteria 1,2	yes	Meets the relevance and importance criterion for cultural values of national significance as identified when the area was originally designated an ACEC. The ACEC designation should be retained.

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WYOMING BUREAU OF LAND MANAGEMENT (BLM) STANDARD MITIGATION GUIDELINES FOR SURFACE- DISTURBING ACTIVITIES

INTRODUCTION

The "Wyoming BLM Standard Oil and Gas Lease Stipulations" were developed in 1986. During their implementation, it was recognized that various land uses, other than those related to oil and gas exploration and development, should be subject to similar kinds of environmental protection requirements. Using the Wyoming BLM standard oil and gas lease stipulations as a basis, development of the "Wyoming BLM Standard Mitigation Measures for Surface-Disturbing Activities" began.

The term "guidelines" better describes the intent and use of these mitigation standards than the terms "stipulations" or "measures." These guidelines are primarily for the purpose of attaining statewide consistency in how requirements are determined for avoiding and mitigating environmental impacts and resource and land use conflicts. Consistency in this sense does not mean that identical requirements would be applied for all similar types of land use activities that may cause similar types of impacts. Nor does it mean that the requirements or guidelines for a single land use activity would be identical in all areas.

There are two ways the standard mitigation guidelines are used in the resource management plan/environmental impact statement (RMP/EIS) process: (1) as part of the planning criteria in developing the RMP alternatives, and (2) in the analytical processes of both developing the alternatives and analyzing the impacts of the alternatives. In the first case, an assumption is made that any one or more of the standard mitigations will be appropriately included as conditions of relevant actions being proposed or considered in each alternative. In the second case, the standard mitigations are used (1) to develop a baseline for measuring and comparing impacts among the alternatives; (2) to identify other actions and alternatives that should be considered, and (3) to help determine whether more stringent or less stringent mitigations should be considered.

Some of the seasonal restrictions in the standard oil and gas lease stipulations contain the statement, "This limitation does not apply to maintenance and operation of producing wells." This statement was included because the stipulations were developed specifically for application to oil and gas leases at the time of issuance, not for activities associated with producing wells. At lease issuance, the only action that can be generally contemplated is the possibility that exploratory drilling may occur somewhere on the lease area. Unfortunately, the provision has been interpreted by some people to mean that the seasonal restriction disappears at the operational stage (i.e., if a producing well is attained). It must be understood that at both the oil and gas exploration stage and the operation or development stages, additional site-specific environmental analyses are conducted and any needed restrictions or mitigations identified become part of the operational or development plan. For example, wells may continue to produce, but related activity may be limited. Thus, it is possible for such seasonal restrictions to continue in effect and be applicable to maintenance and operation of producing wells, if supported by the environmental analyses.

The RMP/EIS does not decide or dictate the exact wording or inclusion of these guidelines. Rather, the standard guidelines are used in the RMP/EIS process as a tool to help develop the RMP alternatives and to provide a baseline for comparative impact analy-

sis in arriving at RMP decisions. These guidelines will be used in the same manner in analyzing activity plans and other site-specific proposals. These guidelines and their wording are matters of policy. As such, specific wording is subject to change primarily through administrative review, not through the RMP/EIS process. Any further changes that may be made in the continuing refinement of these guidelines and any development of program-specific standard stipulations will be handled in another forum, including appropriate public involvement and input.

PURPOSE

The purpose of the "Standard Mitigation Guidelines" are (1) to reserve, for the BLM, the right to modify the operations of all surface and other human presence disturbance activities as part of the statutory requirements for environmental protection, and (2) to inform a potential lessee, permittee, or operator of the requirements that must be met when using BLM-administered public lands. These guidelines have been written in a format that will allow for (1) their direct use as stipulations, and (2) the addition of specific or specialized mitigation following the submission of a detailed plan of development or other project proposal, and an environmental analysis.

Those resource activities or programs currently without a standardized set of permit or operation stipulations can use the mitigation guidelines as stipulations or as conditions of approval, or as a baseline for developing specific stipulations for a given activity or program.

Because use of the mitigation guidelines was integrated into the RMP/EIS process and will be integrated into the site-specific environmental analysis process, the application of stipulations or mitigation requirements derived through the guidelines will provide more consistency with planning decisions and plan implementation than has occurred in the past. Application of the standard mitigation guidelines to all surface and other human presence disturbance activities concerning BLM-administered public lands and resources will provide more uniformity in mitigation than has occurred in the past.

ALL STANDARD MITIGATION GUIDELINES

1. Surface Disturbance Mitigation Guideline

Surface disturbance will be prohibited in any of the following areas or conditions. Exception, waiver, or modification of this limitation may be approved in writing, including documented supporting analysis, by the Authorized Officer.

- a. Slopes in excess of 25 percent.
- b. Within important scenic areas (Class I and II Visual Resource Management Areas).
- c. Within 500 feet of surface water and/or riparian areas.

- d. Within either one-quarter mile or the visual horizon (whichever is closer) of historic trails.
- e. Construction with frozen material or during periods when the soil material is saturated or when watershed damage is likely to occur.

Guidance

The intent of the SURFACE DISTURBANCE MITIGATION GUIDELINE is to inform interested parties (potential lessees, permittees, or operators) that when one or more of the five (1a through 1e) conditions exist, surface-disturbing activities will be prohibited unless or until a permittee or his designated representative and the surface management agency (SMA) arrive at an acceptable plan for mitigation of anticipated impacts. This negotiation will occur prior to development.

Specific criteria (e.g., 500 feet from water) have been established based upon the best information available. However, such items as geographical areas and seasons must be delineated at the field level.

Exception, waiver, or modification of requirements developed from this guideline must be based upon environmental analysis of proposals (e.g., activity plans, plans of development, plans of operation, applications for permit to drill) and, if necessary, must allow for other mitigation to be applied on a site-specific basis.

2. Wildlife Mitigation Guideline

- a. To protect important big game winter habitat, activities or surface use will not be allowed from November 15 to April 30 within certain areas encompassed by the authorization. The same criteria apply to defined big game birthing areas from May 1 to June 30.

Application of this limitation to operation and maintenance of a developed project must be based on environmental analysis of the operational or production aspects.

Exception, waiver, or modification of this limitation in any year may be approved in writing, including documented supporting analysis, by the Authorized Officer.

- b. To protect important raptor and/or sage and sharp-tailed grouse nesting habitat, activities or surface use will not be allowed from February 1 to July 31 within certain areas encompassed by the authorization. The same criteria apply to defined raptor and game bird winter concentration areas from November 15 to April 30.

Application of this limitation to operation and maintenance of a developed project must be based on environmental analysis of the operational or production aspects.

Exception, waiver, or modification of this limitation in any year may be approved in writing, including documented supporting analysis, by the Authorized Officer.

- c. No activities or surface use will be allowed on that portion of the authorization area identified within (legal description) for the purpose of protecting (e.g., sage/sharp-tailed grouse breeding grounds, and/or other species/activities) habitat.

Exception, waiver, or modification of this limitation in any year may be approved in writing, including documented supporting analysis, by the Authorized Officer.

- d. Portions of the authorized use area legally described as (legal description), are known or suspected to be essential habitat for (name) which is a threatened or endangered species. Prior to conducting any onsite activities, the lessee/permittee will be required to conduct inventories or studies in accordance with

BLM and U.S. Fish and Wildlife Service guidelines to verify the presence or absence of this species. In the event that (name) occurrence is identified, the lessee/permittee will be required to modify operational plans to include the protection requirements of this species and its habitat (e.g., seasonal use restrictions, occupancy limitations, facility design modifications).

Guidance

The WILDLIFE MITIGATION GUIDELINE is intended to provide two basic types of protection: seasonal restriction (2a and 2b) and prohibition of activities or surface use (2c). Item 2d is specific to situations involving threatened or endangered species. Legal descriptions will ultimately be required and should be measurable and legally definable. There are no minimum subdivision requirements at this time. The area delineated can and should be defined as necessary, based upon current biological data, prior to the time of processing an application and issuing the use authorization. The legal description must eventually become a part of the condition for approval of the permit, plan of development, and/or other use authorization.

The seasonal restriction section identifies three example groups of species and delineates three similar time frame restrictions. The big game species including elk, moose, deer, antelope, and bighorn sheep, all require protection of crucial winter range between November 15 and April 30. Elk and bighorn sheep also require protection from disturbance from May 1 to June 30, when they typically occupy distinct calving and lambing areas. Raptors include eagles, accipiters, falcons (peregrine, prairie, and merlin), buteos (ferruginous and Swainson's hawks), osprey, and burrowing owls. The raptors and sage and sharp-tailed grouse require nesting protection between February 1 and July 31. The same birds often require protection from disturbance from November 15 through April 30 while they occupy winter concentration areas.

Item 2c, the prohibition of activity or surface use, is intended for protection of specific wildlife habitat areas or values within the use area that cannot be protected by using seasonal restrictions. These areas or values must be factors that limit life-cycle activities (e.g., sage grouse strutting grounds, known threatened and endangered species habitat).

Exception, waiver, or modification of requirements developed from this guideline must be based upon environmental analysis of proposals (e.g., activity plans, plans of development, plans of operation, applications for permit to drill) and, if necessary, must allow for other mitigation to be applied on a site-specific basis.

3. Cultural Resource Mitigation Guideline

When a proposed discretionary land use has potential for affecting the characteristics which qualify a cultural property for the National Register of Historic Places (National Register), mitigation will be considered. In accordance with Section 106 of the Historic Preservation Act, procedures specified in 36 CFR 800 will be used in consultation with the Wyoming State Historic Preservation Officer and the Advisory Council on Historic Preservation in arriving at determinations regarding the need and type of mitigation to be required.

Guidance

The preferred strategy for treating potential adverse effects on cultural properties is "avoidance." If avoidance involves project relocation, the new project area may also require cultural resource

inventory. If avoidance is imprudent or unfeasible, appropriate mitigation may include excavation (data recovery), stabilization, monitoring, protection barriers and signs, or other physical and administrative measures.

Reports documenting results of cultural resource inventory, evaluation, and the establishment of mitigation alternatives (if necessary) shall be written according to standards contained in BLM Manuals, the cultural resource permit stipulations, and in other policy issued by the BLM. These reports must provide sufficient information for Section 106 consultation. Reports shall be reviewed for adequacy by the appropriate BLM cultural resource specialist. If cultural properties on, or eligible for, the National Register are located within these areas of potential impact and cannot be avoided, the Authorized Officer shall begin the Section 106 consultation process in accordance with the procedures contained in 36 CFR 800.

Mitigation measures shall be implemented according to the mitigation plan approved by the BLM Authorized Officer. Such plans are usually prepared by the land use applicant according to BLM specifications. Mitigation plans will be reviewed as part of Section 106 consultation for National Register eligible or listed properties. The extent and nature of recommended mitigation shall be commensurate with the significance of the cultural resource involved and the anticipated extent of damage. Reasonable costs for mitigation will be borne by the land use applicant. Mitigation must be cost effective and realistic. It must consider project requirements and limitations, input from concerned parties, and be BLM approved or BLM formulated.

Mitigation of paleontological and natural history sites will be treated on a case-by-case basis. Factors such as site significance, economics, safety, and project urgency must be taken into account when making a decision to mitigate. Authority to protect (through mitigation) such values is provided for in FLPMA, Section 102(a)(8). When avoidance is not possible, appropriate mitigation may include excavation (data recovery), stabilization, monitoring, protection barriers and signs, or other physical and administrative protection measures.

4. Special Resource Mitigation Guideline

To protect (resource value), activities or surface use will not be allowed (i.e., within a specific distance of the resource value or between date to date) in (legal description).

Application of this limitation to operation and maintenance of a developed project must be based on environmental analysis of the operational or production aspects.

Exception, waiver, or modification of this limitation in any year may be approved in writing, including documented supporting analysis, by the Authorized Officer.

Example Resource Categories (Select or identify category and specific resource value):

- a. Recreation areas.
- b. Special natural history or paleontological features.
- c. Special management areas.
- d. Sections of major rivers.
- e. Prior existing rights-of-way.
- f. Occupied dwellings.
- g. Other (specify).

Guidance

The SPECIAL RESOURCE MITIGATION GUIDELINE is intended for use only in site-specific situations where one of the first three general mitigation guidelines will not adequately address the concern. The resource value, location, and specific restrictions must be clearly identified. A detailed plan addressing specific mitigation and special restrictions will be required prior to disturbance or development and will become a condition for approval of the permit, plan of development, or other use authorization.

Exception, waiver, or modification of requirements developed from this guideline must be based upon environmental analysis of proposals (e.g., activity plans, plans of development, plans of operation, applications for permit to drill) and, if necessary, must allow for other mitigation to be applied on a site-specific basis.

5. No Surface Occupancy Guideline

No Surface Occupancy will be allowed on the following described lands (legal description) because of (resource value).

Example Resource Categories (Select or identify category and specific resource value):

- a. Recreation Areas (e.g., campgrounds, historic trails, national monuments).
- b. Major reservoirs/dams.
- c. Special management area (e.g., areas of critical environmental concern, known threatened or endangered species habitat, wild and scenic rivers).
- d. Other (specify).

Guidance

The NO SURFACE OCCUPANCY (NSO) MITIGATION GUIDELINE is intended for use only when other mitigation is determined insufficient to adequately protect the public interest and is the only alternative to "no development" or "no leasing." The legal description and resource value of concern must be identified and be tied to an NSO land use planning decision.

Waiver of, or exception(s) to, the NSO requirement will be subject to the same test used to initially justify its imposition. If, upon evaluation of a site-specific proposal, it is found that less restrictive mitigation would adequately protect the public interest or value of concern, then a waiver or exception to the NSO requirement is possible. The record must show that because conditions or uses have changed, less restrictive requirements will protect the public interest. An environmental analysis must be conducted and documented (e.g., environmental assessment, environmental impact statement, etc., as necessary) in order to provide the basis for a waiver or exception to an NSO planning decision. Modification of the NSO requirement will pertain only to refinement or correction of the location(s) to which it applied. If the waiver, exception, or modification is found to be consistent with the intent of the planning decision, it may be granted. If found inconsistent with the intent of the planning decision, a plan amendment would be required before the waiver, exception, or modification could be granted.

When considering the "no development" or "no leasing" option, a rigorous test must be met and fully documented in the record. This test must be based upon stringent standards described in the land use planning document. Since rejection of all development rights is more severe than the most restrictive mitigation requirement, the record must show that consideration was given to development subject to

APPENDIX 2

reasonable mitigation, including "no surface occupancy." The record must also show that other mitigation was determined to be insufficient to adequately protect the public interest. A "no development" or "no leasing" decision should not be made solely because it appears that conventional methods of development would be unfea-

sible, especially where an NSO restriction may be acceptable to a potential permittee. In such cases, the potential permittee should have the opportunity to decide whether or not to go ahead with the proposal (or accept the use authorization), recognizing that an NSO restriction is involved.

APPENDIX 3-1

1981 COAL SCREENING PROCESS SUMMARY

Coal screening/planning was initially completed for the coal development potential area within the Green River Resource Area in 1981. The results of this process are summarized here. The 1981 coal planning decisions are in the coal section of Alternative A in Chapter 2 of this RMP EIS.

The 1981 coal screening/planning results are now outdated and superseded by the 1992 process conducted for this Green River RMP

planning effort. The 1981 information is addressed here and presented in Alternative A of this EIS for purposes of public disclosure and comparative analysis only.

The detailed information on the findings of the 1981 screening process may be found in the Big Sandy and Salt Wells Coal Brochures (USDI 1981c and 1981d). Table A3-1-1 and Table A3-1-2 provide a brief summary of these findings.

TABLE A3-1-1

1981 COAL SCREENING RESULTS OF UNSUITABILITY CRITERIA (Alternative A)

Unsuitability Criteria	Surface Land Status ¹	Unsuitable (acres)	Subsurface Acres	
			Unsuitable	Limited ²
1. City Rock Springs/Superior	FS/FC	880	840	—
2. Rights-of-Way	FS/FC	1,362	1,278	1,362
	FS/SC	360	50	—
3. Buffer Zone (ROW, Comm)	FS/FC	132	116	—
	FS/SC	18	18	—
7. Historic Lands & Sites	FS/FC	1,600	—	2,360
11. Eagle Nest/Buffer	FS/FC	5,410	—	4,220
	FS/SC	1,600	—	1,600
	PRLA ³	1,350 ²	—	1,350
13. Falcon Cliff/Nesting	FS/FC	5,100	—	4,310
	FS/SC	660	—	660
	PRLA ³	440 ²	—	440
14. Migratory Bird Habitat	FS/FC	7,420	—	6,250
	FS/SC	1,780	—	1,780
	PRLA ³	1,350	—	1,350
15. Wildlife (State High Interest)	FS/FC	3,520	—	—
	FS/SC	640	—	—
	PRLA	8,522	—	—
16. Floodplains	FS/FC	240	240	—

¹ FS/FC - Federal Surface/Federal Coal; FS/SC - Federal Surface/State Coal

² Limited or no surface occupancy with subsurface mining.

³ The PRLAs referred to are no longer active applications.

NOTE: Acreage is not cumulative, may be repeated in Criteria/Conflicts.

APPENDIX 3-1

TABLE A3-1-2

1981 COAL SCREENING RESULTS OF OTHER MULTIPLE USE CONFLICTS (Alternative A)

Unsuitability Criteria	Land Status ¹	Surface Unsuitable (acres)	Subsurface Acres	
			Unsuitable	Limited ²
Urban Expansion	FS/FC	1,830	1,640	500
Emmons Cone Area	FS/FC	130	160	160
Natural Corrals	FS/FC	240	—	320
Superior Recharge Area	FS/FC	1,040	1,760	—
Cedar Canyon	FS/SC	160	160	—
	PRLA ³	180	180	—
Corridor Study	FS/FC	300	3,420	—
Known Geologic Structures	FS/FC	1,620	3,620	—
Coal Leases ³	FS/FC	1,880	1,880	—

¹ FS/FC - Federal Surface/Federal Coal; FS/SC - Federal Surface/State Coal

² Limited or no surface occupancy with subsurface mining.

³ Coal leases referred to have been relinquished.

APPENDIX 3-2

1995 COAL SCREENING PROCESS SUMMARY

INTRODUCTION

Since the Federal coal lands within the Green River Resource Area were reviewed and evaluated in 1981, there have been some changes in the Federal coal regulations and in the coal screening/planning procedures. In addition, a considerable amount of new coal resource data has been compiled that has resulted in identifying a significantly larger area and amount of Federal coal having development potential. The status of other land and resource values and uses in the coal development potential area have also changed. Thus, the 1981 coal planning results have become outdated and are unusable as a viable planning base for managing the Federal coal program in the planning area.

The purpose for conducting another review and evaluation of the coal development potential area at this time is to update the coal resource data, the coal screening results and the coal planning decisions for the planning area with new data gathered since 1981. This information and the results of the new review will be used to provide opportunities for short-term and long-term development of Federal coal in an orderly and timely manner, consistent with the Federal Coal Management Program, policies, environmental integrity, national energy needs, and related demands. Development of this RMP EIS will serve as a mode for public input to the coal screening process.

CONSULTATION AND COORDINATION

Two *Federal Register* Notices were published requesting and/or providing information on the coal screening process. On September 30, 1988 (vol. 53, no. 190, p. 38360), a call for coal and other resource information was published. No specific information was provided as a result of this notice.

On December 8, 1992 (vol. 57, no. 23, p. 58023), the Notice of Availability of the RMP Draft EIS was published. Fifteen comment letters regarding coal were provided and these are found in Appendix 14-3.

A letter with a map of the proposed coal potential area was mailed on March 7, 1990, requesting information on coal potential. Four responses were received that supported the potential area, or coal activities in general.

Unsuitability Criteria

Comments received from the U.S. Fish and Wildlife Service and the Wyoming Game and Fish Department as required under the consultation process of the coal unsuitability criteria (43 CFR 3461) are summarized as follows:

Comments concerning Criteria 9 and 10 for Federally Listed Endangered Species Habitat and State Listed Endangered Species stated that no critical or essential habitat has been determined but habitat of essential value is located in the resource area. Habitat for specific species were indicated.

Comments concerning Criteria 11 and 12 for Bald and Golden Eagle Nest Sites and Roosts stated that an active bald eagle nest is located within the Seedskaadee National Refuge and that the area from Fontenelle to the City of Green River is considered important habitat.

The Wyoming Game and Fish Department provided maps to help in the application of Criterion 15 (Habitat for State High-Interest Wildlife and Plants).

The U.S. Fish and Wildlife Service stated that under Criterion 19, National Resource Waters, concern should be given to water quality with respect to effects on fisheries, migratory birds, and federally listed threatened or endangered species.

Consultation also occurred with local Indian tribes, although no written response was received.

AREA DESCRIPTION

The area reviewed for competitive Federal coal development in the Green River Resource Area (i.e., the coal development potential area) lies within a portion of the decertified Green River-Hams Fork Coal Region of northwest Colorado and south-central/southwestern Wyoming and is shown on Map 76. The review area is underlain by an estimated 8.5 billion tons of Federal coal reserves. This coal contains an average of 10,244 British Thermal Units (BTUs) of energy per pound and an average sulfur content of 0.8 percent.

The central portion of the area has a checkerboard coal and land ownership pattern with alternating sections of Federal and non-Federal coal and lands. Map 76 shows the land and coal ownership status in this area.

In some cases, the land and coal ownership in the area is split (i.e., split estate). There are areas of state or privately-owned land surface overlying Federally-owned coal, and there are areas of Federally-owned land surface overlying state or privately-owned coal. The latter situation is addressed only to determine surface impacts and the need for surface management stipulations and mitigation requirements, should this private or state coal be developed.

Only the areas containing Federally-owned coal and those split-estate lands of Federal surface-non Federal coal, within the structural Rock Springs Uplift were reviewed and evaluated. Any consideration for possible development of Federally-owned coal outside this area will be reviewed as future demand and need dictate. Existing Federal coal leases are not appropriate for review. However, existing Federal coal leases were taken into account in the reasonably foreseeable coal development scenarios and in the impact analyses conducted for the RMP EIS. Also, development of state and privately owned coal was taken into account in the reasonably foreseeable coal development scenarios and in the impact analyses conducted for the RMP EIS.

COAL SCREENING/PLANNING PROCEDURES

The Federal Coal Management Program established four major steps to be used in the identification of Federal coal areas that are acceptable for coal development. The four steps are (1) identification of areas with Federal coal development potential; (2) application of the coal unsuitability criteria; (3) other multiple use conflicts evaluation; and (4) surface owner consultation. Application of the latter three coal screening steps, as described below, results in (1) identifying areas that are acceptable for coal development in each of these 3 steps; and (2) identifying areas that are unsuitable (Step 2), unacceptable (Step 3), and unavailable (Step 4) for coal development. Finally, all Federal coal areas that pass through the screening

process are determined to be acceptable for further consideration for leasing and development. Collectively, these steps are called the "Coal Screening Process" (43 CFR 3461) and are applied in sequence to the Federal coal review area.

The following is a description of each of the steps of the coal screening process and how they were applied to the Federal coal review area.

Step 1 - Identification of Coal Development Potential

All areas of known and assumed Federal coal development potential for both surface and subsurface mining were identified using geological and economic data submitted by coal companies and interpretations of available geological data from various other sources. The remaining three screening steps were applied to the Federal coal development potential areas (both known and assumed) identified.

Step 2 - Application of Coal Unsuitability Criteria

As required by 43 CFR 3461, the 20 coal unsuitability criteria were applied to all known and assumed Federal coal development potential areas.

These criteria involve consideration of existing resource values such as scenic areas, natural and historic values, wildlife, floodplains, alluvial valley floors, etc. The purpose of this step is to identify areas with key features of environmental sensitivity that would make them "unsuitable" for surface coal mining, or for surface impacts associated with coal mining.

Step 3 - Multiple Use Conflict Evaluation

This step is a review of those Federal coal lands that remain acceptable after applying the coal unsuitability criteria. It involves consideration of other multiple use values (i.e., not directly concerned with the unsuitability criteria) and identifying any areas that would be "unacceptable" (in addition to those identified as unsuitable) for surface or subsurface coal mining or for surface operations and impacts associated with coal mining.

Step 4 - Surface Owner Consultation

Section 714 of the Surface Mining Control and Reclamation Act (SMCRA) requires BLM to consult with certain "qualified" owners of split estate lands (i.e., private surface ownership over federally-owned coal) when surface mining of the Federal coal is being considered. This was initiated during the public review and comment period for the draft Green River RMP EIS.

This step does not apply to areas where only subsurface mining methods are concerned. It involves only those split estate lands within competitive Federal coal areas that remain acceptable for consideration for leasing and development by surface mining methods after conducting the multiple use conflict evaluation.

In this consultation process, qualified surface owners are asked to express their preference for or against surface mining of the Federal coal under their private lands. An individual surface owner or significant numbers of these surface owners expressing a preference against surface mining, could result in identifying some of these split estate lands as "unavailable" for leasing and development of the Federal coal. In such cases, these areas can still be considered for possible leasing beyond this land use planning stage. This is possible

because the actual commitment of surface owner consent or refusal to consent does not occur until later in the coal activity planning process, or in final processing of an individual coal lease application, prior to offering a lease for the Federal coal involved.

HOW THE PROCEDURES ARE APPLIED

To help clarify the coal screening process conducted in the planning area, two categories of coal and land/mineral ownership relationships are identified: 1) competitive Federal coal lease areas and 2) areas where Federally-owned land surface overlies state or privately-owned coal. Competitive Federal coal areas are those with the potential to be considered for new competitive Federal coal leasing for either surface or subsurface mining methods, modifications to existing leases, emergency leasing, and exchanges. Areas where BLM-administered Federally-owned land surface overlies state or privately-owned coal involve potential conflict situations between managing the Federal land surface and development of the non-federal coal.

The following procedures are in accordance with the Mineral Leasing Act of 1920, the Federal Coal Leasing Amendments Act of 1976, the Federal Land Policy and Management Act of 1976, the Surface Mining Control and Reclamation Act of 1977, the Federal Coal Management Program adopted by the Secretary of the Interior in June 1979, and modified by a secretarial decision issued in January 1986, and all relative Federal regulations.

Competitive Federal Coal Areas

All four steps of the screening process are applicable to these areas, when considering surface (e.g., strip) mining methods. Only steps 1-3 of the screening process are applicable to these areas, when considering subsurface (e.g., underground) mining methods.

Preference Right Lease Application (PRLA) Areas

Since all rights to the Beans Spring PRLA project have been relinquished, there are no longer any coal PRLAs in the planning area. The Federal coal lands within the former project area are now part of the competitive federal coal areas and are addressed as stated above.

Federal Surface-State Coal Areas

Only steps 2 and 3 of the screening process are applicable to these areas. In applying these screening steps, any areas of the Federal land surface with key features, environmental sensitivity, or other values that would make them unsuitable or unacceptable for coal development are identified. State-owned coal reserves are not considered. The purpose for applying these screening steps to these areas is to provide a basic resource analysis for developing needed stipulations and protective measures for the Federal land surface, should the state decide to develop the coal.

FINDINGS

The following is a summary of the findings and related recommendations resulting from conducting the coal screening process. All acreages and tonnages are approximate. Additional documentation and background information, explaining in detail how the

procedures were used and the findings were derived are available for public review at the BLM Rock Springs District and Green River Resource Area offices.

Refer to Table A3-2-1 and Table A3-2-2 for a summary of acreages and coal tonnages affected by the coal unsuitability findings.

Step 1 - Identification of Coal Development Potential

The areas of known and assumed coal development potential are shown on Map 76.

Step 2 - Application of Coal Unsuitability Criteria

The following discussion briefly explains findings resulting from application of each unsuitability criteria.

Criterion Number 1. Federal Land Systems and Federal Lands in Communities.

The Federal coal lands and the Federal surface/State coal lands, within the incorporated limits of the towns of Rock Springs and Superior, were determined to be unsuitable for coal mining and related surface operations and impacts:

Rationale: There are no exceptions available that would allow consideration of Federal coal leasing and development within incorporated cities, towns and villages.

Criterion Number 2. Rights-of-Way and Easements.

Only those Federal coal lands and Federal surface/State coal lands along the Interstate 80 and Union Pacific Railroad rights-of-way, were determined to be unsuitable for coal mining and related surface operations and impacts.

Rationale: After applying the exceptions to this criterion the coal lands along the Interstate 80 and Union Pacific Railroad rights-of-way remain unsuitable because coal development would create unnecessary significant conflicts and costs associated with relocation of these rights-of-way. Most of the other rights-of-way crossing the coal development potential area can be relocated to accommodate coal mining and related activities. Thus, a "general" determination was made that most right-of-way areas would be acceptable for further leasing consideration and coal development, subject to valid existing rights and negotiations for relocating if necessary, appropriate stipulations and consistency with current planning and management decisions. Any unforeseen conflicts in these areas should be identified and resolved during the coal activity planning process, during processing of individual coal lease applications, or in mining and reclamation plan development.

Criterion Number 3. Buffer Zones for Rights-of-Way, Communities, & Buildings.

It was determined that buffer areas for rights-of-way are unnecessary. It was determined that a 100-foot buffer zone around cemeteries and a 300-foot buffer zone around occupied dwellings, public buildings, schools, churches, community or institutional buildings, or public parks would be unsuitable for coal mining and related surface operations and impacts.

Rationale: Buffer areas for rights-of-way are unnecessary because rights-of-way generally have sufficient area to contain their func-

tions. Additionally, if a right-of-way can be relocated, a buffer would not be necessary.

There are no occupied dwellings, cemeteries, schools, churches, community or institutional buildings, or public parks on BLM administered public land surface in the coal development potential area. However, there may be some of these structures and facilities on split estate lands (i.e., private/state surface over Federal coal), and on non-Federal lands that may be located within 100 to 300 feet of adjacent Federal coal lands. Thus, it was determined that a 100-foot buffer zone around cemeteries and a 300-foot buffer zone around occupied dwellings, public buildings, schools, churches, community or institutional buildings, or public parks would be unsuitable for coal mining and related surface operations and impacts. Should any conflicts arise, it would be the responsibility of the lessee to show that conflicts between mining and the buffer zone would be adequately addressed and mitigated to the satisfaction of both parties.

Because the numbers and locations of these structures and facilities and the affect they may have on the development of Federal coal is so variable and unpredictable, it was not possible to make a reasonable estimate of acreage and coal tonnage that may be affected. These situations will be addressed on a case-by-case basis in the course of processing coal lease applications and coal activity planning, prior to issuing Federal coal leases.

Criterion Number 4. Wilderness Study Areas.

Those parts of the Sand Dunes and Red Creek Badlands WSAs that are within the coal development potential area were determined to be unsuitable for coal mining and related surface operations and impacts, as long as they are under review by Congress for possible wilderness designation. Both Federal coal lands and Federal surface/State coal lands are involved.

Rationale: There are no exceptions available that would allow consideration of Federal coal leasing and development within Wilderness Study Areas.

Criterion Number 5. Scenic Areas.

No areas were determined to be unsuitable under this criterion.

Rationale: There are no Class I visual resource areas designated within the coal development potential area.

Criterion Number 6. Lands Used For Scientific Study.

No areas were determined to be unsuitable under this criterion.

Rationale: There are no scientific study areas within the coal development potential area.

Criterion Number 7. Places Included in the National Register of Historic Places.

No areas were determined to be unsuitable under this criterion.

Rationale: There are no places within the coal development potential area which are included in the National Register of Historic Places (NRHP). There are several sites in the area which are "eligible" for listing on the NRHP. These are appropriately addressed later in the coal screening process as "other multiple use conflicts".

Sites on BLM-administered public lands that were reviewed include: Natural Corrals, Overland Trail, Cedar Canyon Petroglyphs, two sections in Pine Canyon containing petroglyphs, Crookston Ranch, North and South Table Mountains, and the historic mining towns of Gibraltar, Gunn, and Hallville.

Sites on private or state lands (i.e., split estate, private or state surface/Federal coal) that were reviewed include: Point of Rocks Stage Station, South Superior Union Hall, Rock Springs City Hall, Reliance School, and Gras House.

Criterion Number 8. National Natural Landmarks.

No areas were determined to be unsuitable under this criterion.

Rationale: There are no designated National Natural Landmarks within the coal development potential area.

Criterion Number 9. Federally Listed Endangered Species Habitat.

No areas were determined to be unsuitable under this criterion.

Rationale: Endangered species habitat was inventoried in 1981-1982 by the U.S. Fish and Wildlife Service and the Wyoming Game and Fish Department and was found not to be occupied by listed endangered species.

Criterion Number 10. State Listed Endangered Species Habitat.

No areas were determined to be unsuitable under this criterion.

Rationale: This criterion is not applicable because the State of Wyoming recognizes the Federal list of endangered species and has no separate list of its own.

Criterion Number 11. Bald and Golden Eagle Nest Sites.

No areas were determined to be unsuitable under this criterion.

Rationale: It was determined that these areas would be acceptable for coal development with a provision that any Federal coal lease issued in the area will include a requirement for developing appropriate mitigation measures that would protect the long-term interests of the species involved.

The requirement (or lease stipulation) would be to the effect that the lessee would be required to develop mitigation measures or habitat improvement/development/reclamation plans (in conjunction with mining and reclamation plan requirements) in consultation with and to the satisfaction of BLM, the USFWS and the appropriate State agencies. Mitigation measures may include but would not be limited to such things as seasonal operations in buffer zones around "occupied" nests, protection of "active" (not necessarily occupied) nests at all times (unless otherwise provided by the USFWS), off or on site habitat improvement or development, special reclamation measures, or other appropriate measures for long-term nest or habitat protection.

Criterion Number 12. Bald and Golden Eagle Roosts.

No areas were determined to be unsuitable under this criterion.

Rationale: It was determined that these areas would be acceptable for coal development with a provision that any Federal coal lease issued in the area will include a requirement for developing appropriate mitigation measures that would protect the long-term interests of the species involved.

The requirement (or lease stipulation) would be to the effect that the lessee would be required to develop mitigation measures or habitat improvement/development/reclamation plans (in conjunction with mining and reclamation plan requirements) in consultation with and to the satisfaction of BLM, the USFWS and the appropriate State agencies. Mitigation measures may include but would not be

limited to such things as seasonal operations in roosting areas, special reclamation measures or other appropriate measures for long-term habitat protection.

Criterion Number 13. Falcon Cliff Nesting Sites.

No areas were determined to be unsuitable under this criterion.

Rationale: It was determined that these areas would be acceptable for coal development with a provision that any Federal coal lease issued in the area will include a requirement for developing appropriate mitigation measures that would protect the long-term interests of the species involved.

The requirement (or lease stipulation) would be to the effect that the lessee would be required to develop mitigation measures or habitat improvement/development/reclamation plans (in conjunction with mining and reclamation plan requirements) in consultation with and to the satisfaction of BLM, the USFWS and the appropriate State agencies. Mitigation measures may include but would not be limited to such things as seasonal operations in buffer zones around "occupied" nests, protection of "active" (not necessarily occupied) nests at all times (unless otherwise provided by the USFWS), off or on site habitat improvement or development, special reclamation measures, or other appropriate measures for long-term nest or habitat protection.

Criterion Number 14. Migratory Bird Habitat.

No areas were determined to be unsuitable under this criterion.

Rationale: It was determined that these areas would be acceptable for coal development with a provision that any Federal coal lease issued in the area will include a requirement for developing appropriate mitigation measures that would protect the long-term interests of the species involved.

The requirement (or lease stipulation) would be to the effect that the lessee would be required to develop mitigation measures or habitat improvement/development/reclamation plans (in conjunction with mining and reclamation plan requirements) in consultation with and to the satisfaction of BLM, the USFWS and the appropriate State agencies. Mitigation measures may include but would not be limited to such things as seasonal operations in buffer zones around "occupied" nests and other important habitat areas, protection of "active" (not necessarily occupied) nests at all times (unless otherwise provided by the USFWS), off or on site habitat improvement or development, special reclamation measures, or other appropriate measures for long-term nest or habitat protection.

Criterion Number 15. Habitat for State High-Interest Wildlife and Plants.

No areas were determined to be unsuitable under this criterion. The greater Cooper Ridge and Elk Butte areas were determined to be acceptable for further consideration for Federal coal leasing and development, pending further analysis.

Rationale: The primary habitat considerations involved with the coal development potential area are big game crucial winter ranges, elk calving areas, grouse leks and nesting areas, and burrowing owl nesting areas. It was determined that these habitat areas would be acceptable for coal development with a provision that any Federal coal lease issued in these areas would include a requirement for developing appropriate mitigation measures that would protect the long-term interests of the species and habitats involved.

The requirement (or lease stipulation) would be to the effect that the lessee would be required to develop mitigation measures or

habitat improvement/development/reclamation plans (in conjunction with mining and reclamation plan requirements) to the satisfaction of BLM and the appropriate State agencies. Mitigation measures may include but would not be limited to such things as seasonal operations in some areas, off or on site habitat improvement or development, special reclamation measures, or other appropriate measures for long-term habitat protection.

Concerning the Greater Cooper Ridge and Elk Butte Areas The greater Cooper Ridge and Elk Butte areas (about 25,765 acres and 438 million tons of coal) were determined to be acceptable for further consideration for Federal coal leasing and development, pending further analysis. This analysis is for the purpose of defining the extent of any deer and antelope crucial winter range in the area, and for determining if certain methods of coal mining can occur in the area without having a significant long-term impact on the deer and antelope herds. About 395 acres of State coal lands would also be affected.

Concerning Grouse Lek Areas Active grouse leks (sage and sharptail) and the area within ¼ mile radius of active leks (about 667 acres and 11.3 million tons of coal) were determined to be acceptable for coal development. Exploration activities and ancillary facilities would be allowed provided that (1) the surface disturbing activities related to exploration and ancillary facility development avoid the lek and ¼ mile radius areas, if possible, and where not possible, intensive mitigation were applied; (2) permanent and high profile structures, such as buildings, overhead powerlines, other types of ancillary facilities, etc., were prohibited in these areas; and (3) during the grouse mating season, surface uses and activities were prohibited between the hours of 6:00 p.m. and 9:00 a.m., within ½ mile radius of the leks.

Criterion Number 16. Riverine, Coastal, and Special Floodplains.

The floodplains of Bitter Creek and Salt Wells Creek were determined to be unsuitable for coal mining and related surface operations and impacts.

Other riparian and wetland habitat areas were determined to be acceptable for coal development, if they were managed as avoidance areas for surface disturbing activities.

Rationale: With the exception of Bitter Creek and Salt Wells Creek, it was determined that the floodplain areas within the coal development area can generally be mined in such a manner that all or certain stipulated methods of coal mining can be undertaken without substantial threat of loss to people or property and to the natural and beneficial values of the floodplain, either on a coal lease tract or downstream. Examples of lease requirements may include but are not limited to relocation of channels during mining and restoration of channel locations after mining, controlling sediment yields and prohibiting spoil dumping in channels, lining channel bottoms, revegetation and general mined land reclamation, etc. There are no exceptions available that would allow consideration of federal coal leasing and development of Bitter Creek and Salt Wells Creek as it has been determined that mining could not be undertaken without substantial threat of loss of life or property.

Concerning Riparian and Wetland Habitat Areas (incomplete data) Other riparian and wetland habitat areas (about 2,000 acres and 34 million tons of coal) were determined to be acceptable for coal development, if they were managed as avoidance areas for surface disturbing activities. That is, surface disturbing activities associated with such actions as surface coal mining methods, exploration drilling, construction of roads and other types of rights-of-way, etc., would be avoided in these areas, if possible. In cases where it would

not be possible to avoid these areas, intensive mitigation of the surface disturbing activities would be emphasized.

Criterion Number 17. Municipal Watersheds.

The Federal coal lands within the municipal watershed for the town of Superior were determined to be unsuitable for coal mining and related surface operations and impacts.

Rationale: These lands are a part of the surface outcrop of the Ericson Formation and the associated recharge area, in the area northeast of Superior. The Town of Superior obtains its drinking water from wells drilled into the Ericson Formation. In consultation with the Town of Superior, it was determined that the exception to this criterion could not be applied.

Criterion Number 18. National Resource Waters.

No areas were determined to be unsuitable under this criterion.

Rationale: No National Resource Waters, within the coal development potential area, have been identified by the State of Wyoming in its water quality management plan.

Criterion Number 19. Alluvial Valley Floors.

No areas were determined to be unsuitable under this criterion.

Rationale: No alluvial valley floors have been identified by the State of Wyoming or by BLM within the coal development potential area.

Criterion Number 20. Unsuitability Criterion Proposed by a State or by an Indian Tribe.

No areas were determined to be unsuitable under this criterion.

Rationale: Neither the State of Wyoming nor any Indian Tribes have proposed any unsuitability criteria to the Secretary of the Interior.

Summary of Results of Application of the Unsuitability Criteria

Approximately 12,600 acres of public lands within the coal development potential area (containing approximately 225 million tons of coal) were determined to be unsuitable for coal mining and related surface operations and impacts (Map 77). Areas found to be unsuitable include incorporated towns, the rights-of-way for Interstate 80 and the Union Pacific Railroad, WSAs, floodplains, and the Town of Superior municipal watershed recharge area.

Federal surface State Coal lands affected by the unsuitability determinations are listed in Table A3-2-2.

Step 3 - Multiple Use Conflicts

In this step of the coal screening process, those lands which were determined to be acceptable for further leasing consideration and for coal development after applying the coal unsuitability criteria, were further evaluated. This evaluation involved consideration of potential conflicts of coal development with other multiple use values (i.e., values not only or directly concerned with the unsuitability criteria) and identifying any additional areas that would be "unacceptable" for coal mining or related surface operations and impacts.

This evaluation of other multiple use conflicts involves a somewhat complicated procedure of sequentially analyzing and developing the various coal management scenarios, presented in the alternatives of the RMP EIS, as follows:

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1. **Alternative A** - The impact analysis of the coal management actions for Alternative A (continuation of existing management direction or the "No Action" alternative), described in Chapter 2 of this EIS, is documented in Chapter 4. The results of the other multiple use conflict evaluation of this alternative for coal screening is summarized in Appendix 3-1. As pointed out earlier, the coal management actions for Alternative A are the same as those developed in 1981, and were provided for purposes of comparative analysis only. The 1981 coal management decisions and the data they were based on are now outdated and inadequate and will be superseded by the 1992 coal screening application and the approved Green River RMP.
2. **Alternative B** - Based on the results of the 1992 application of the coal unsuitability criteria on the coal development potential area (documented above), the coal management scenario for Alternative B was developed (see Chapter 2). A basic assumption of the coal management scenario for Alternative B was that, with very few exceptions, any conflicts or impacts to values concerned with the unsuitability criteria, that may be caused by coal mining and related surface operations and impacts, could be mitigated or would be allowable. Thus, as presented in the above results of applying the coal unsuitability criteria, except for the 12,600 acres determined to be unsuitable, the exceptions to the bulk of the unsuitability criteria would be applicable and, in addition, requirements for environmental protection or protection of other multiple use values would meet minimum requirements.

The results of the other multiple use conflict evaluation of Alternative B are documented in the following pages. They were derived from the impact analysis of Alternative B (Chapter 4).

3. **Alternative C** - Based on the results of both the application of the unsuitability criteria and the impact analysis of Alternative B, the coal management scenario for Alternative C was developed (see Chapter 2). To provide a good basis for comparative impact analysis, a basic assumption for the Alternative C coal scenario was that most conflicts or impacts to values concerned with the unsuitability criteria, that may be caused by coal mining and related surface operations and impacts, could not be mitigated or would not be allowable. Thus, in direct contrast to the above scenario for Alternative B, none of the exceptions to the unsuitability criteria would be applicable (i.e., all factors related to the criteria would be assumed unsuitable) and requirements for environmental protection and protection of other multiple use values would be heavy to extreme.

The results of the other multiple use conflict evaluation of Alternative C were derived from the impact analysis of Alternative C (Chapter 4) and are documented below.

4. **Proposed Plan** - In addition to the results of the application of the coal unsuitability criteria, the coal management scenario for the Proposed Plan (see Chapter 2) was also based on the comparative analyses and other multiple use conflict evaluations of both Alternatives B and C. That is, the coal management scenario for the Proposed Plan was developed to strike a happy medium between any excessive or unnecessary impacts to other resource and land use values that may result from Alternative B and any excessive or unnecessary impacts to coal development that may result from Alternative C.

The results of the other multiple use conflict evaluation of the Proposed Plan were derived from the impact analysis of the Proposed Plan (Chapter 4) and are documented below.

Table A3-2-3 shows the acreage and coal tonnages affected in the multiple use conflict evaluation by land and coal ownership categories.

Alternative B

As described in Chapter 2, under Alternative B, about 433,000 acres of federal coal lands and about 7.3 billion tons of coal, within the Coal Development Potential Area (see Map 76), would be open to further consideration for coal leasing and development (i.e., new competitive leasing, emergency leasing, lease modifications, and exchange proposals, under the Federal Coal Management Program), with appropriate and necessary conditions and requirements for protection of other land and resource values and uses (Map 78).

Conflict: Coal development activities and related surface operations and activities would cause conflicts within the Rock Springs Expansion Area.

Analysis: Primary concerns are public health and safety and conflicts with expanding subdivisions and development around Rock Springs.

Determination: Coal mining activities in the Rock Springs Expansion Area would be unacceptable. Therefore, about 10,000 acres and 170 million tons of federal coal would be unacceptable for further leasing consideration.

Conflict: Coal development activities and related surface operations and activities would cause conflicts within the Cedar Canyon, Greater Sand Dunes, and the Natural Corrals ACECs and the Steamboat Mountain proposed ACEC.

Analysis: Coal development by surface mining methods and other surface operations and activities would adversely affect the wildlife, cultural, geologic and scenic values. Development would also conflict with management objectives in the Steamboat Mountain proposed ACEC.

Determination: The existing and proposed ACECs would be acceptable for coal development by subsurface mining methods only, to protect area values. About 20,775 acres and 176.5 million tons of coal would be affected.

Only very limited surface facilities would be allowed on the Cedar Canyon and Steamboat Mountain areas.

The Natural Corrals and Greater Sand Dunes areas would be unacceptable for any surface operations and activities related to coal mining.

Conflict: Coal development activities and related surface operations and activities would conflict with known and unknown historic and cultural values and sites that are eligible for listing on the National Register of Historic Places.

Analysis: Current policy requires that known and unknown historic and cultural sites be identified and appropriate measures taken prior to disruption of sites. Some areas would not be acceptable for coal development by surface mining methods or for surface operations and activities.

The Eastern Shoshone Tribe has expressed concern that areas of interest to them for religious or spiritual reasons may be within the coal development potential area. They have not visited the area to address specific concerns and would like to reserve the right to comment concerning specific areas proposed for coal leasing. The Uinta Ouray (Ute), Bannock-Northern Shoshone and Northern Arapahoe tribes have also been consulted but have not provided comments.

Determination: In cases where underground mining methods would be used, potential affects to surface historic and cultural values of any eligible National Register sites within the Federal coal development potential area can be avoided or

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mitigated. Where surface mining methods and surface operations are concerned, any affects to eligible National Register sites within the Federal coal development potential area that may be included within a Federal coal lease or that may be affected by coal mining, could be mitigated by avoidance, documentation, excavation, or other means. An unknown amount of acreage and tons of coal would be affected.

Surveys for cultural resources would be done during coal activity planning, processing of individual coal lease applications, during mine plan approval processing, and during the term of the lease and mine-life.

Prior to coal leasing, the tribes that are known to have inhabited the lands in and near the planning area in the historic past will be solicited for comments.

Conflict: Coal development activities and related surface operations and activities, combined with other activities such as other energy development, community and population expansion, simultaneously conflict with big game in big game crucial winter ranges and overlapping fawning/calving areas.

Analysis: Continuous and simultaneous development in big game crucial winter ranges and fawning/calving areas may adversely affect habitat and cause stress and displacement of big game during crucial periods. Mining operations, particularly in conjunction with other operations and activities, would reduce availability and useability of crucial winter ranges and calving/fawning areas. This can result in displacement of animals from traditional ranges and in some cases mortality due to a lack of important habitats to support these animals.

Determination: A provision for maintaining a balance between coal leasing and development and adequate crucial winter range and birthing area habitats to prevent significant adverse impacts to important big game species would be required. This would be accomplished through controlled timing and sequencing of Federal coal leasing and development in these areas. About 14,590 acres and 240 million tons of coal would be affected.

Conflict: Coal development activities and related surface operations and activities would conflict with important Colorado River cutthroat trout habitat values in the North Fork of Vermillion Creek drainage.

Analysis: Coal development and other surface operations and activities would cause excessive surface and watershed disturbance in this area that would significantly affect riparian habitat and water quality requirements to sustain the reintroduction of Colorado River cutthroat trout in the creek.

Determination: The North Fork of Vermillion Creek drainage was determined to be unacceptable for coal mining and related surface operations and activities. Therefore, about 405 acres and 6.9 million tons of coal would be unacceptable for further leasing consideration.

Conflict: Coal development activities and related surface operations and activities would conflict with the natural values of Boars Tusk and Emmons Cone.

Analysis: Coal development by surface mining methods and other surface operations and activities would destroy the natural values of these areas which contain unique geologic features. Spiritual leaders of the Shoshone Tribe have indicated an interest in the Boars Tusk unique geographic landform.

Determination: About 150 acres (90 for Boars Tusk and 60 for Emmons Cone) and 1.3 million tons of coal would be acceptable for coal development by subsurface mining methods only. These lands would be unacceptable for surface coal mining methods and any surface operations and activities related to coal mining.

Conflict: Coal development activities and related surface operations and activities would conflict with the historic structures at Crookston Ranch and the surrounding 500-acre viewshed.

Analysis: The Crookston Ranch site is a representative example of Wyoming Basin homestead era vernacular architecture and is eligible for the National Register of Historic Places. The ranch itself covers about 40 acres, but its surrounding setting (about 500 acres) adds much to the issues the BLM intends to interpret at the site. The area would be adversely affected by surface coal mining activities and other surface operations and activities.

Determination: The Crookston Ranch site and surrounding area would be acceptable for coal mining by subsurface mining methods only. These same lands would be unacceptable for surface coal mining methods and any surface operations and activities related to coal mining. The structures and setting of the historic ranch would be preserved. This would affect about 500 acres and 4.2 million tons of coal.

Conflict: Coal development activities and related surface operations would conflict with cultural sites and historic features such as the historic mining towns of Gunn, Gibraltar, and Hallville, and portions of the Overland Trail on BLM-administered lands.

Analysis: These features are important historic sites and contain sensitive cultural resources and would be adversely affected by surface coal mining methods and other surface operations and activities.

Determination: These areas, involving about 1,570 acres [about 1,280 acres along portions of the Overland Trail on BLM-administered lands (4 miles x 320 acres/mile)], 290 acres including the historic mining towns of Gunn (10 acres), Gibraltar (30 acres), and Hallville (250 acres), and about 13.3 million tons of coal would be acceptable for coal development by subsurface mining methods only. These same lands would be unacceptable for surface coal mining methods and any surface operations and activities related to coal mining.

Conflict: Coal development activities and related surface operations would conflict with historic and prehistoric features on North and South Table Mountains.

Analysis: These areas include several archeological sites of a sensitive nature that would be adversely affected by surface coal mining methods and other surface operations and activities. Spiritual leaders of the Shoshone Tribe have indicated an interest in these unique geographic landforms.

Determination: These areas, involving about 1,280 acres and about 10.8 million tons of coal, would be acceptable for coal development by subsurface mining methods only. These same lands would be unacceptable for surface coal mining methods and any surface operations and activities related to coal mining.

Conflict: Coal development activities and related surface operations would conflict with the Tolar and Cedar Canyon rock art sites and surrounding areas and the Pine Canyon rock art sites.

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Analysis: These rock art sites and their character of setting in surrounding areas, would be adversely affected by surface coal mining methods and other surface operations and activities.

Determination: The structures and setting of the rock art panels would be preserved. The Tolar rock art site (about 20 acres of Federal coal lands and 170,000 tons of coal) would be acceptable for coal development by subsurface mining methods only. These same lands would be unacceptable for surface coal mining methods and any surface operations and activities related to coal mining. The Cedar Canyon Petroglyph site (about 20 acres of Federal coal lands and 170,000 tons of coal) would be acceptable for coal development by subsurface mining methods only. These same lands would be unacceptable for surface coal mining methods and any surface operations and activities related to coal mining. The areas surrounding the Tolar and Cedar Canyon Rock Art sites (about 1,000 acres of Federal coal lands and 8.4 million tons of coal) would be acceptable for coal development by subsurface mining methods only. These same lands would be unacceptable for surface coal mining methods and any surface operations and activities related to coal mining.

About 1,280 acres containing approximately 10.8 million tons of coal in Pine Canyon would be acceptable for coal development by subsurface mining methods only. These same lands would be unacceptable for surface coal mining methods and any surface operations and activities related to coal mining.

Conflict: Coal development and related surface operations "could" conflict with the resource values in the Sage Creek watershed.

Analysis: Management in this area would be focused on candidate fish species and their habitat and watershed protection and improvement. Surface coal mining methods and other surface operations and activities could adversely affect these values.

Determination: About 9,600 acres and 81.6 million tons of coal in the Sage Creek watershed would be acceptable for development by surface and subsurface coal mining methods, with certain mitigation. Coal leases and development in the area would include requirements for plans of development, mining plans, etc., to include adequate mitigation measures to assure protection of the fisheries and watershed values, prior to allowing any mining activity.

Conflict: Coal development and related surface operations would conflict with the groundwater recharge area to an aquifer in the Almond Formation, once believed to supply water to the Town of South Superior.

Analysis: The Town of South Superior uses groundwater from an aquifer in the Ericson Formation, a formation below and distinct from the Almond Formation. Wells are drilled through the Almond Formation to reach the Ericson Formation, but the Almond Formation is not used as a source of water. Mining in the Almond Formation would thus not affect the aquifer being used by the town of South Superior.

Determination: About 4,710 acres and 80 million tons of coal in the Almond Formation east of the Town of South Superior were determined to be acceptable for coal development by surface and subsurface mining methods. Adequate protection would be provided to the Ericson Formation aquifer that supplies the drinking water to South Superior. Since the Almond Formation recharge area does not affect the town water supply, and adequate mitigation can be provided to

ensure protection of the Ericson Formation recharge area (west of the Almond Formation recharge area), mining could occur.

Alternative C

As described in Chapter 2, under Alternative C, about 16,900 acres of federal coal lands and about 287 million tons of coal, within the Coal Development Potential Area (see Map 76), would be open to further consideration for coal leasing and development (i.e., new competitive leasing, emergency leasing, lease modifications, and exchange proposals, under the Federal Coal Management Program) with appropriate and necessary conditions and requirements for protection of other land and resource values and uses (Map 79).

Conflict: The comparatively small area open to coal leasing and development and the heavy degree of protection afforded to other resource values would severely conflict with and cause significant impacts to coal development.

Analysis: Under Alternative C, the opportunity to provide mitigation of adverse affects of coal mining and related activities on other resource values is nonexistent. The coal management scenario for this alternative avoided any possibility of adverse coal mining impacts on other values by simply disallowing any mining where a real or potential conflict might occur. When compared to the affects of controlled and mitigated coal mining activities, as would occur under Alternatives A and B, there is little, if any, significant difference in impacts to other resource values that would be caused by coal mining among the A, B, and C alternatives. However, the impacts to coal development under Alternative C would cause a severe decline in coal production and, over the long term, the opportunity for coal development would be lost.

Determination: The extent of restriction to coal development and the extent of protection of other resource values were determined to be extremely excessive and unnecessary. The resulting degree of lost coal development opportunity was determined to be an unnecessary and unacceptable impact and therefore this coal development option should be dropped from further consideration.

Proposed Plan

As described in Chapter 2, under the proposed plan, about 422,500 acres of federal coal lands and about 7.2 billion tons of coal within the Coal Development Potential Area (see Map 76), would be open to further consideration for coal leasing and development (i.e., new competitive leasing, emergency leasing, lease modifications, and exchange proposals, under the Federal Coal Management Program) with appropriate and necessary conditions and requirements for protection of other land and resource values and uses (Map 80, Map 81, and Map 82).

The coal development scenario for the Proposed Plan was derived primarily through considering and comparing the impact analyses of the coal development scenarios for Alternatives B and C as summarized above. The coal development scenario in the Proposed plan is a modification of the Alternative B scenario. That is, the areas identified as unacceptable for coal development in the impact analysis of Alternative B were not included in the coal development scenario for the Proposed Plan. Only the areas that were determined to be acceptable for coal development (including specified mining methods and mitigation requirements) became a part of the coal development scenario for the Proposed Plan. As a result, there were no unacceptable adverse affects that would be caused by coal development identified in the analysis of the Proposed Plan.

Step 4 - Surface Owner Consultation

Surface owner consultation was initiated during the public comment and review period for the Green River RMP Draft EIS. There were no surface owners of split-estate lands (i.e., privately-owned surface over Federally-owned coal) who expressed a preference against surface mining the Federal coal on their lands. Therefore, there were no Federal coal lands in the Planning Area determined to be unavailable for further consideration for leasing and development

due to surface owner consultation. It should be understood that surface owners of split estate lands still have the opportunity to consent or refuse to consent to the leasing of federal coal, under their lands, before such federal coal leases would be issued.

Note: Surface owner consultation does not apply to Federal surface/ State coal areas, PRLAs, or to competitive Federal coal areas where subsurface mining is concerned.

TABLE A3-2-1

1995 APPLICATION OF COAL UNSUITABILITY CRITERIA: COMPETITIVE FEDERAL COAL AREAS (acres)

Unsuitability Criterion	Federal Surface/ Federal Coal	State Surface/ Federal Coal	Private Surface/ Federal Coal	Total Unsuitable	Tonnages ¹ (millions)
Coal Development Potential Area (Total)	422,000	82	11,860		
1. Cities/Towns	678	0	1,594	2,272	38.6
2. I-80 & UPRR	856	0	160	1,016	17.3
3. Dwelling Buffer ²	0	0	0	0	0
4. WSAs	4,294	0	0	4,294	73
5. Scenic Federal Lands	0	0	0	0	0
6. Scientific Studies	0	0	0	0	0
7. Sites on the National Register of Historic Places	0	0	0	0	0
8. Natural Areas or National Natural Landmarks	0	0	0	0	0
9. Threatened or Endangered Plant and Animal Species	0	0	0	0	0
10. State Listed Animal Species and Plant Species	0	0	0	0	0
11. Bald or Golden Eagle Nest and Buffer Zones	21,995	0	0	0	0
12. Bald and Golden Eagle Roost and Concentration Areas	0	0	0	0	0
13. Falcon Cliff Nesting Site and Buffer Zones	10,576	0	516	0	0

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TABLE A3-2-1 (Continued)

1995 APPLICATION OF COAL UNSUITABILITY CRITERIA: COMPETITIVE FEDERAL COAL AREAS (acres)

Unsuitability Criterion	Federal Surface/ Federal Coal	State Surface/ Federal Coal	Private Surface/ Federal Coal	Total Unsuitable	Tonnages ¹ (millions)
14. High Priority Habitat for Migratory Bird Species	112,920	0	1,893	0	0
15. Species of State High Interest:					
–antelope crucial winter range	140,861		3,306	0	0
–elk crucial winter range	30,367		611	0	0
–elk calving	12,720		658	0	0
–deer crucial winter range	124,860	81	3,205	0	0
–deer parturition	6,933		78	0	0
–sage grouse leks (1/4-mile buffer)	667	0	0	0	0
–sage grouse (2-mile buffer)	41,260	41	154	0	0
–streams (500' buffer)	12,660	0	0	0	0
–wetlands and floodplains	1,789	0	19	0	0
16. Floodplains (estimated)	1,938	25	160	2,135	36.3
17. Watersheds	1,862	0	2	1,864	31.7
18. National Resource Waters	0	0	0	0	0
19. Alluvial Valley Floors	0	0	0	0	0
20. Lands Identified by an Indian Tribe	0	0	0	0	0

¹ Coal tonnage figures are based upon an average 17,000 tons per acre, where both surface and subsurface mining are affected.

² Actual acreages and tonnages are unknown.

Note: No Federal Surface/Private Minerals lands exist in the Coal Development Potential Area.

APPENDIX 3-2

TABLE A3-2-2
1995 APPLICATION OF COAL UNSUITABILITY CRITERIA:
FEDERAL SURFACE/STATE COAL

Unsuitability Criterion	Federal Surface/State Coal		Unsuitable Acres
	Acres	Tonnages ¹ (millions)	
Coal Development Potential Area (Total)	30,382		
1. Cities/Towns	386		386
2. I-80 & UPRR	51		51
3. Dwelling Buffer	0		
4. WSAs	575		575
5. Scenic Federal Lands	0		
6. Scientific Studies	0		
7. Sites on the National Register of Historic Places	0		
8. Natural Areas or National Natural Landmarks	0		
9. Threatened or Endangered Plant and Animal Species	0		
10. State Listed Animal Species and Plant Species	0		
11. Bald or Golden Eagle Nest and Buffer Zones	2,245	3.8	
12. Bald and Golden Eagle Roost and Concentration Areas	0		
13. Falcon Cliff Nesting Site and buffer zones	890	15.1	
14. High Priority Habitat for Migratory Bird Species: -raptor nests & buffer zones	9,874	167.9	
15. Species of State High Interest:			
-antelope crucial winter range	7,340	124.8	0
-elk crucial winter range	702	11.9	0
-elk calving	0	0	0
-deer crucial winter range	4,887	83.1	0
-deer parturition	0	0	0
-sage grouse (1/4-mile buffer)	0	0	0
-sage grouse (2-mile buffer)	3,639	61.8	0
-streams (500' buffer)	495	8.4	0
-wetlands and floodplains	111	1.9	0
16. Floodplains (estimated)	0		0
17. Watersheds	0		0
18. National Resource Waters	0		0
19. Alluvial Valley Floors	0		0
20. Lands Identified by an Indian Tribe	0		0

¹ Coal tonnage figures are based upon an average 17,000 tons per acre, where both surface and subsurface mining are affected.

Note: No Federal Surface/Private Minerals lands exist in the Coal Development Potential Area.

APPENDIX 3-2

TABLE A3-2-3
SUMMARY OF OTHER MULTIPLE USE CONFLICT EVALUATION
(Alternative B)

Area	Competitive Federal Coal		Federal Surface/ State Coal		Findings
	Acres	Tonnages ¹ (millions)	Acres	Tonnages ¹ (millions)	
North Fork Vermillion Creek (estimated)	405	6.9	0	0	unacceptable for surface or subsurface mining methods
Boars Tusk	0	0	90	0.76	acceptable for subsurface mining methods only
Greater Sand Dunes ACEC	7,140	60.7	0	0	acceptable for subsurface mining methods only
Cedar Canyon ACEC	1,907	16.2	643	5.4	acceptable for subsurface mining methods only
Natural Corrals ACEC	1,275	10.8	0	0	acceptable for subsurface mining methods only
Steamboat Mountain Proposed ACEC	9,810	83.4	0	0	acceptable for subsurface mining methods only
Emmons Cone	60	0.5	0	0	acceptable for subsurface mining methods only
Historic Trails	8,090	68.7	350	2.9	acceptable for subsurface mining methods only
North and South Table Mountains	640	5.4	640	5.4	acceptable for subsurface mining methods only
Pine Canyon	1,280	10.8	0	0	acceptable for subsurface mining methods only
Rock Springs Modified Expansion Area	10,005	170.1	191	3.2	unacceptable for surface and subsur- face mining methods
Sage Creek Watershed	8,995	76.4	655	5.5	acceptable for surface & subsurface mining methods
Superior Recharge	4,580	77.9	130	2.2	acceptable for surface and subsurface mining methods






TABLE A3-2-3 (Continued)
SUMMARY OF OTHER MULTIPLE USE CONFLICT EVALUATION
(Alternative B)

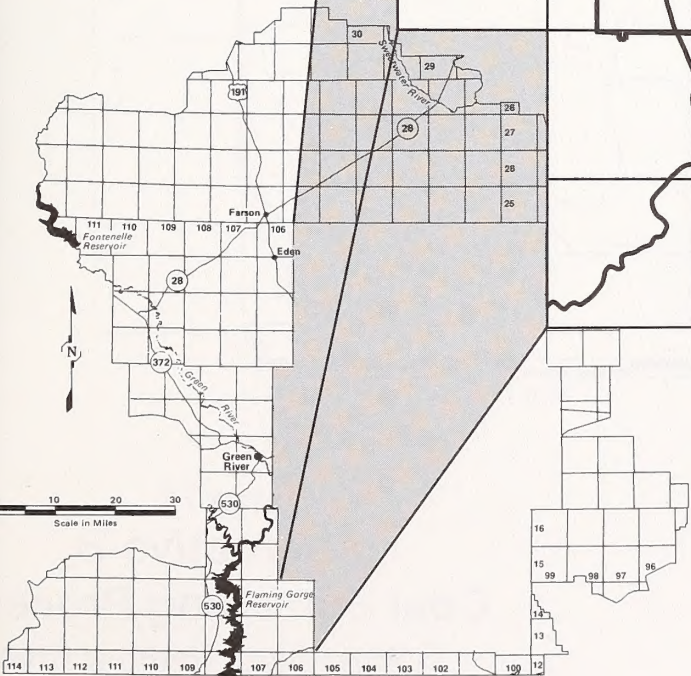
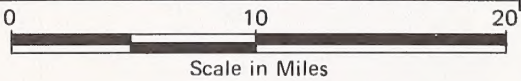
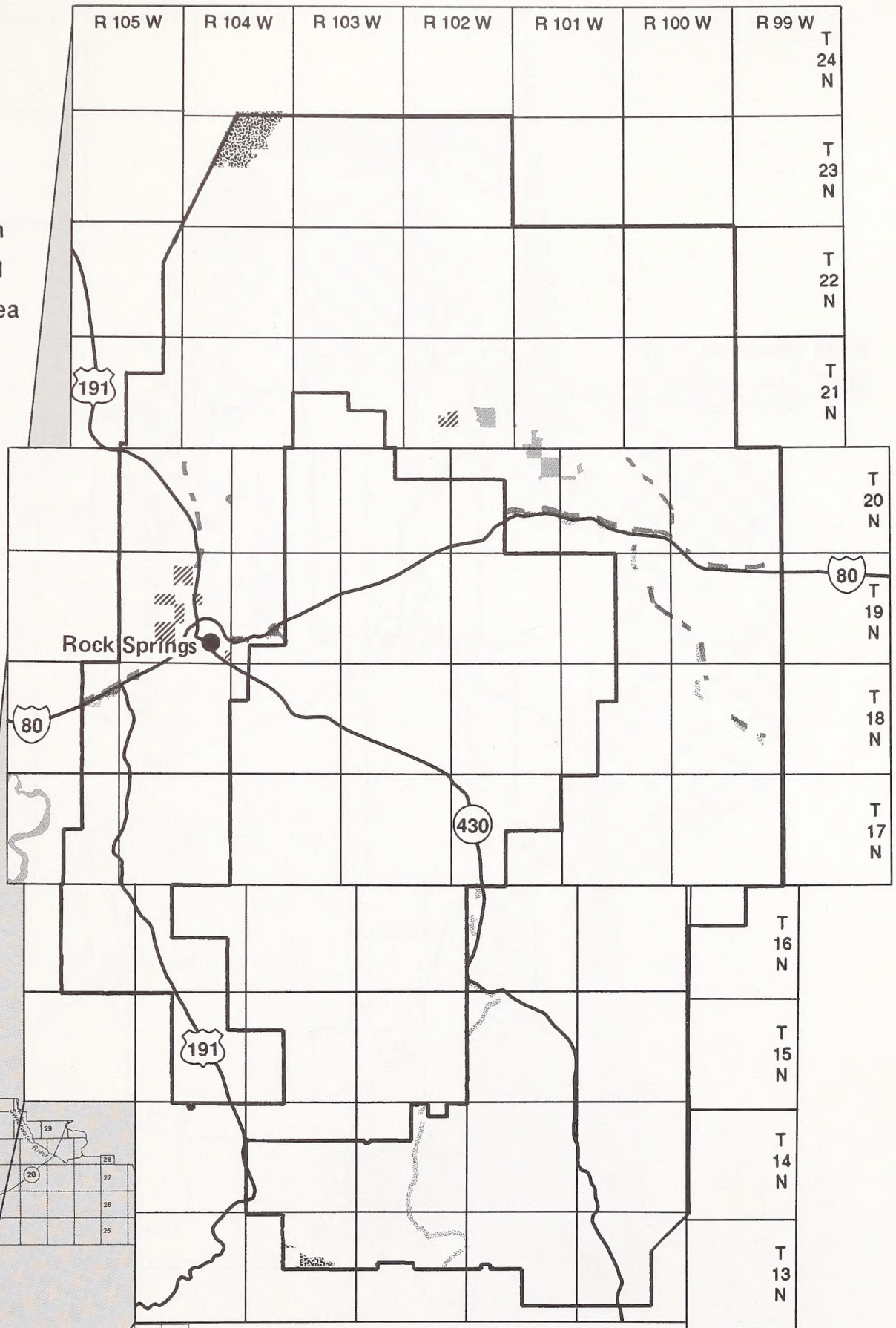
Area	Competitive Federal Coal		Federal Surface/ State Coal		Findings
	Acres	Tonnages ¹ (millions)	Acres	Tonnages ¹ (millions)	
Historic and Cultural Sites Eligible for Listing on the NRHP					to be determined on a case-by-case basis
Historic Mining Towns	290	2.4	0	0	acceptable for subsurface mining methods only
Cedar Canyon Petroglyphs & 500-acre buffer	500	4.2			acceptable for subsurface mining methods only
Crookston Ranch and 500-acre buffer	500	4.2			acceptable for subsurface mining methods only
Tolar Petroglyphs Site and 500-acre buffer	500	4.2			acceptable for subsurface mining methods only
Big Game Crucial Winter Ranges and Overlapping Parturition Areas	14,590	248	0	0	acceptable for surface and subsurface mining methods

¹ Coal tonnage figures are based upon an average 17,000 tons per acre, where both surface and subsurface mining are affected.

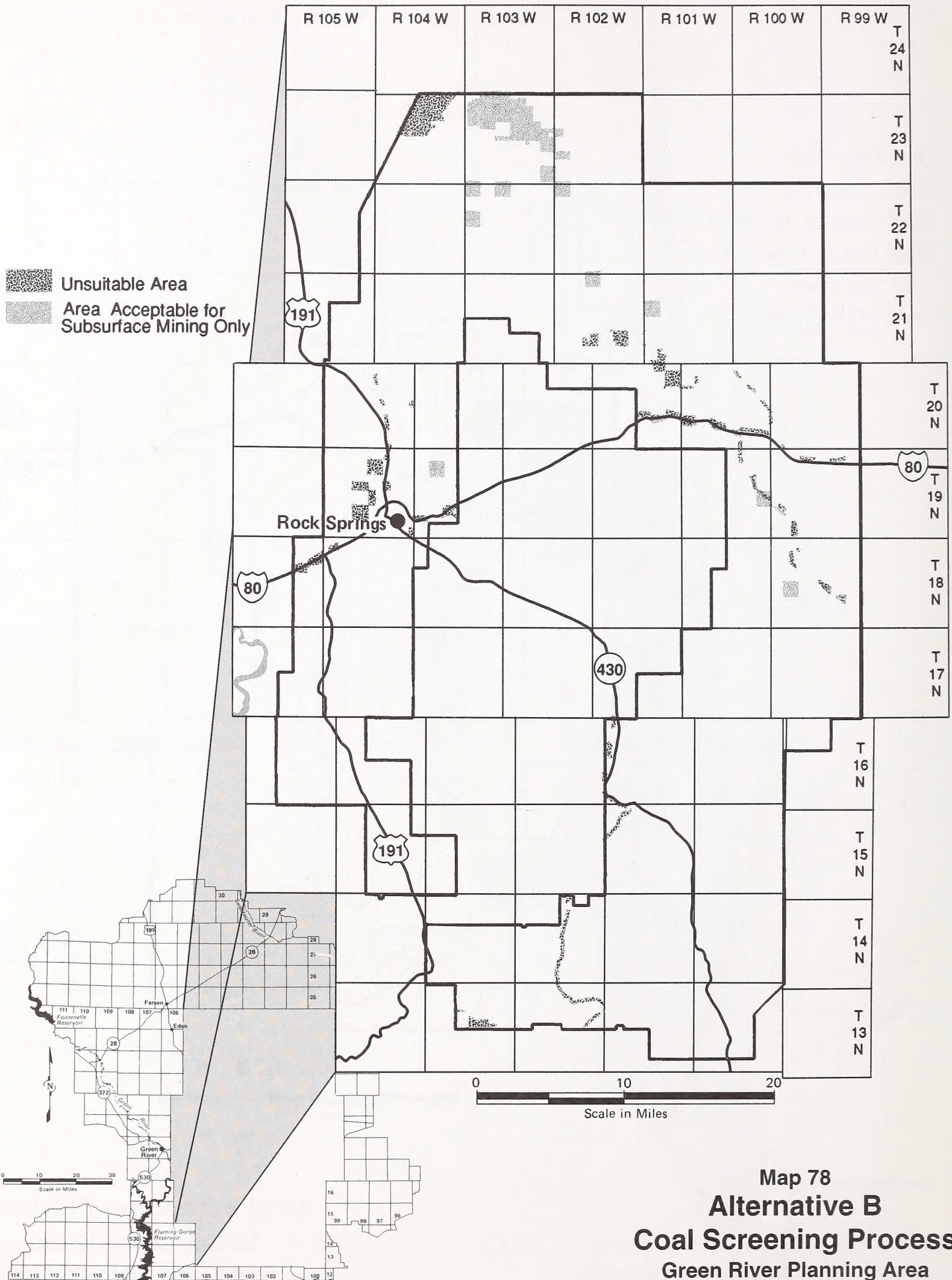
Note: No Federal Surface/Private Minerals lands exist in the Coal Development Potential Area.

Unsuitable Area

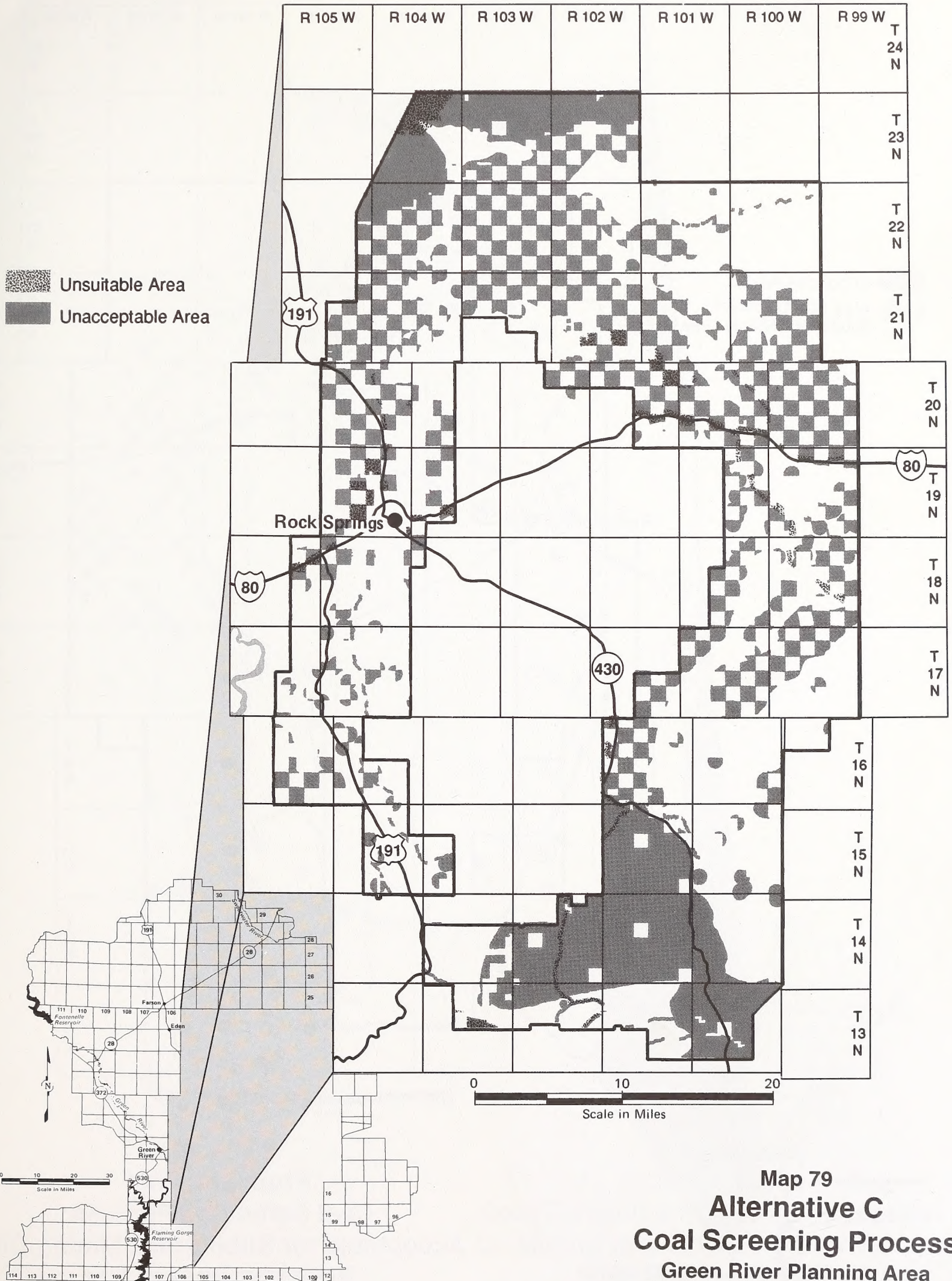
-  Federal Land System
-  Municipal Watershed
-  Wilderness Study Area
-  Floodplains
-  Rights-of-Way and Easements

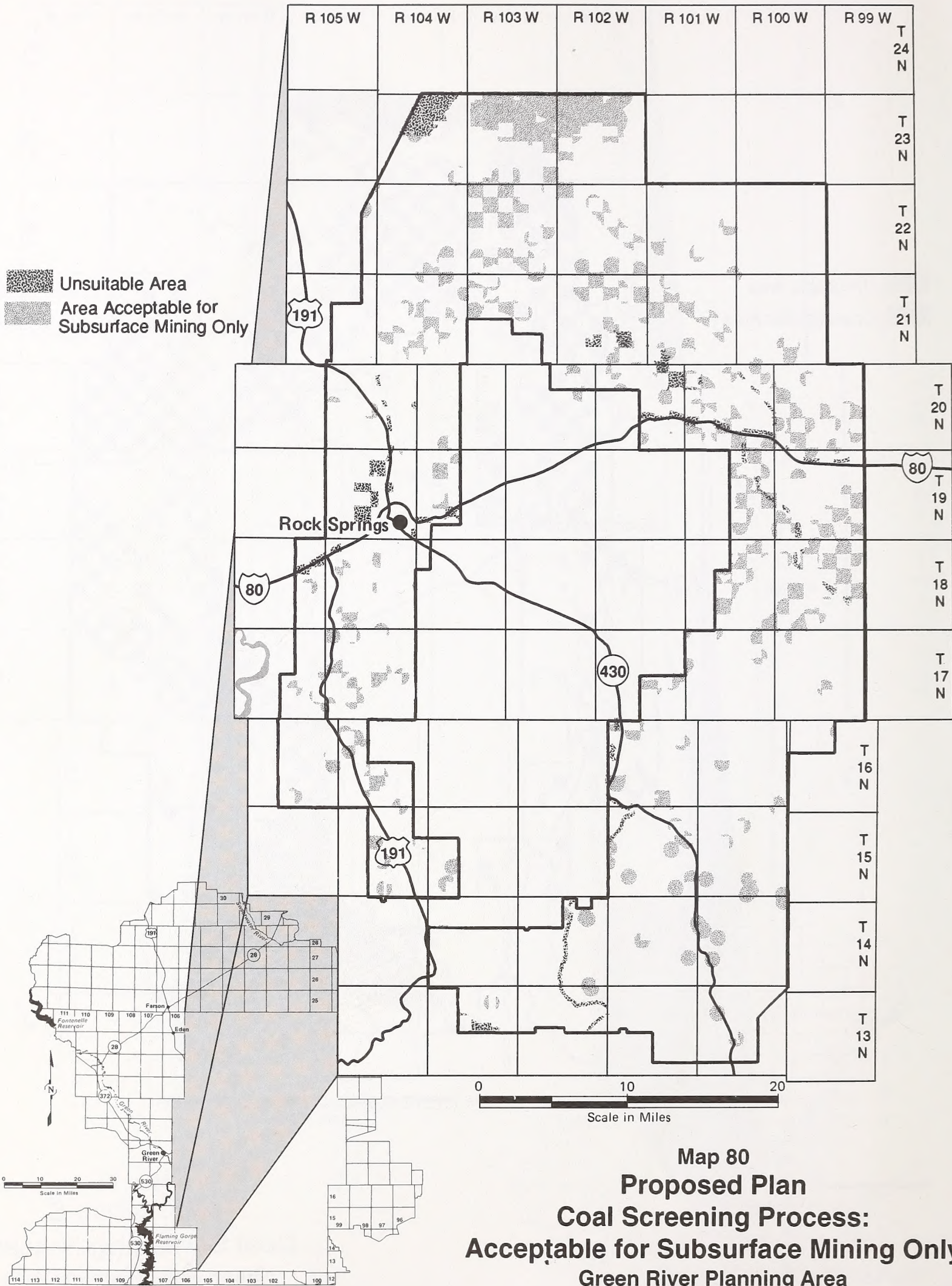


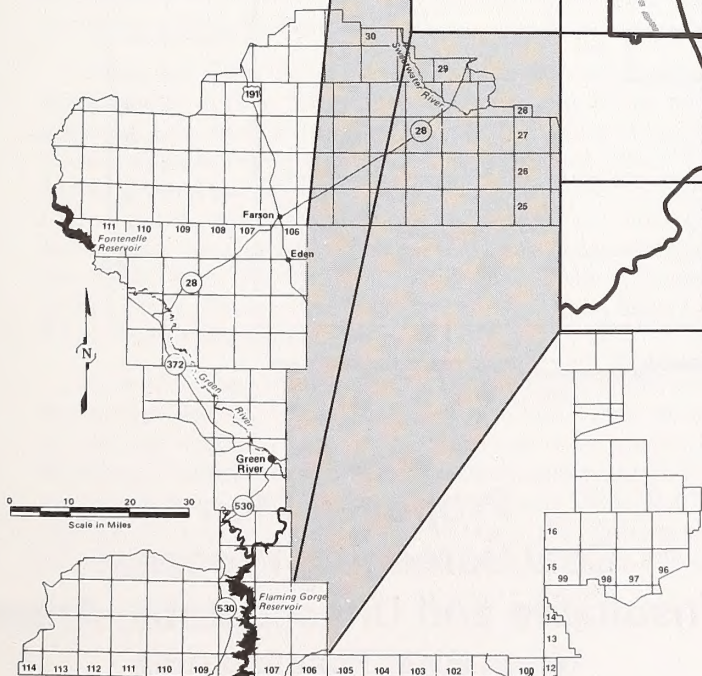
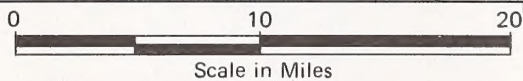
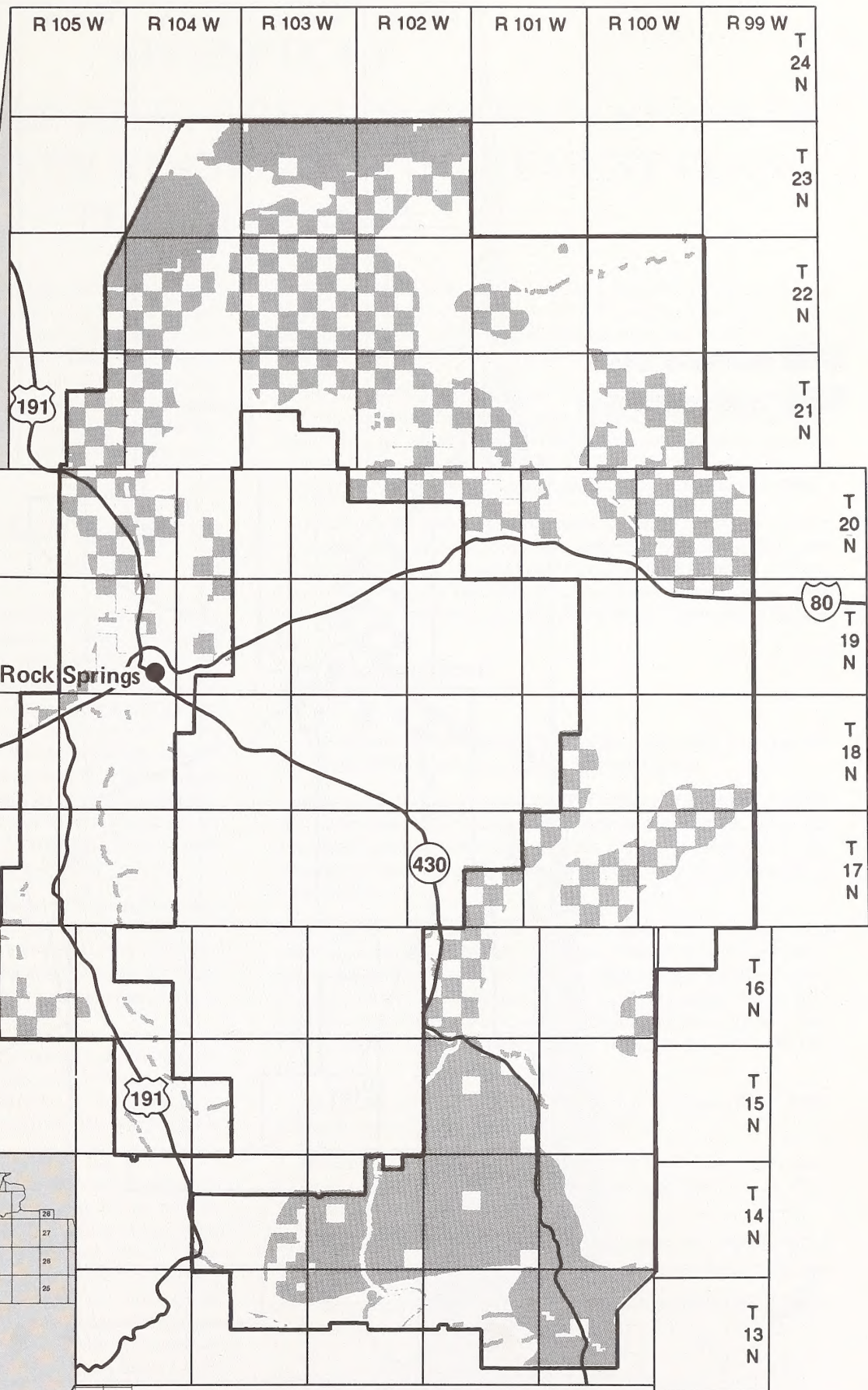
Map 77
Coal Screening Process:
Unsuitable Areas
Green River Planning Area



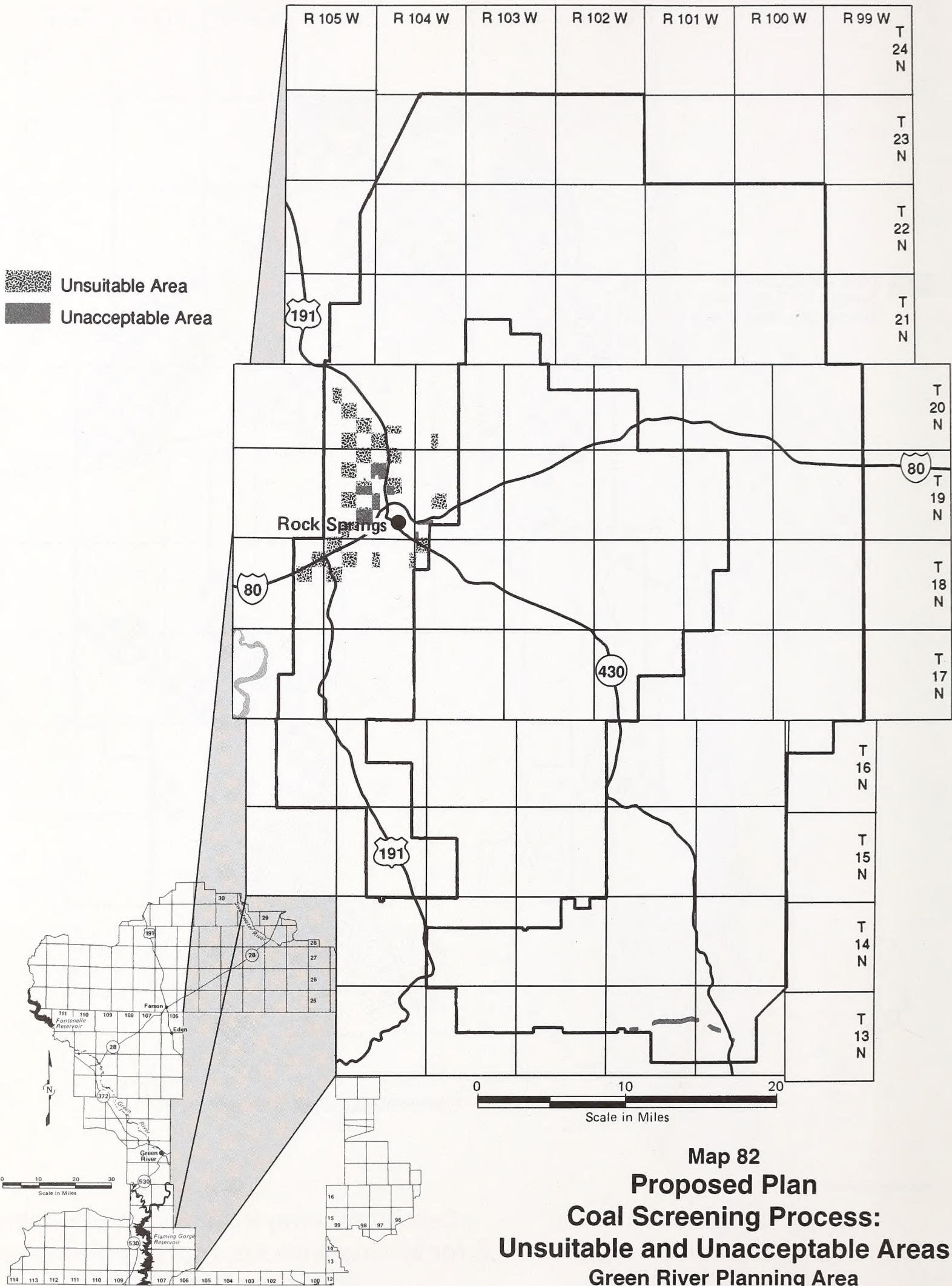
Map 78
Alternative B
Coal Screening Process
Green River Planning Area







Map 81
Proposed Plan
Coal Screening Process: Acceptable
for Mining with Appropriate Mitigation
Green River Planning Area



Map 82
Proposed Plan
Coal Screening Process:
Unsuitable and Unacceptable Areas
Green River Planning Area

APPENDIX 4-1

WILD AND SCENIC RIVERS REVIEW OF WATERWAYS IN THE GREEN RIVER RESOURCE MANAGEMENT PLAN PLANNING AREA

As part of the planning effort for developing the Green River Resource Management Plan (RMP), the Bureau of Land Management (BLM) planning team members completed a Wild and Scenic Rivers review of all BLM-administered public land surface along waterways within the Green River RMP planning area. This review was to determine if any of these BLM-administered public lands meet the Wild and Scenic Rivers (WSR) eligibility criteria and suitability factors, as identified in the Wild and Scenic Rivers Act (WSRA).

PUBLIC INVOLVEMENT AND COORDINATION

Wyoming BLM staff met with representatives of various Wyoming State agencies, including the Governor's Office, in January 1991 and June 1993. These meetings were specifically for the purpose of reaching a mutual understanding of the Wild and Scenic Rivers review process, and of the Wild and Scenic Rivers Eligibility Criteria and Suitability Factors to be used in the process. This included some agreement on any needed refinements of these criteria and factors, specific to Wyoming, and their statewide application on BLM-administered public lands. The eligibility criteria and suitability factors, including minor refinements agreed to at that time, are still consistent with the later released BLM Wild and Scenic Rivers Manual 8351 (May 19, 1992).

Wyoming State government has disagreed with giving any consideration to reviewing waterways that do not contain water year-round (i.e., intermittent and ephemeral waterways). The Wyoming BLM recognizes that position but is obligated to follow the BLM Manual requirement to include intermittent and ephemeral waterways in the review.

The BLM State Director's policy and guidance for conducting the BLM Wild and Scenic Rivers review process in Wyoming was issued December 31, 1992. Minor editorial refinements to this policy and guidance were made on June 29, 1993, to make the wording more consistent with BLM Manual 8351.

Letters describing the wild and scenic rivers review process and the eligibility criteria that BLM used were sent to the people, agencies, and groups on the Green River RMP mailing list and other interested parties to solicit comments and public involvement. Community group presentations on the wild and scenic rivers eligibility criteria and the eligibility review were given to the Bitter Creek White Water Association (November 1990), the Green River Green Belt Task Force (March 1991), the Fishing Seminar/Workshop (March 1991), Trout Unlimited (May 1991), and the Bitter Creek White Water Association (November 1991).

A public meeting (open house) on the eligibility criteria and the eligibility review was held in Rock Springs in April 1991. Briefings on both the eligibility and suitability reviews were given to the Wyoming Congressional delegation representatives (April 1991), the Sweetwater County Commissioners (March 1991), the Rock Springs Multiple Use Advisory Council (March 1991), and representatives of the Rock Springs Grazing Association (March 1991).

In September 1992, BLM personnel from the Green River Resource Area and State Offices briefed Wyoming State agencies on the eligibility and suitability determinations of the Wild and Scenic Rivers review conducted on the Green River RMP planning area.

Public meetings (open houses) on the eligibility and suitability reviews were conducted at LaBarge, Lyman, Rock Springs, Lander, and Farson in January 1993. Public meetings (open houses) on proposed changes from the Draft EIS were held in Rock Springs in February 1993; and Rock Springs and Lander in November 1994.

Media involvement included press releases in several Wyoming newspapers and radio stations and numerous articles on Wild and Scenic Rivers have appeared in the *Rocket Miner*, *Green River Star*, *Casper Star Tribune*, and other local and regional newspapers. One televised interview was done with Sweetwater Television (Channel 6).

PROCESS

The definitions of waterway and public lands apply to key terms used in the Wild and Scenic Rivers Review Process.

waterway - A flowing body of water or estuary or a section, portion, or tributary thereof, including rivers, streams, creeks, runs, kills, rills, and small lakes. For purposes of this review, a waterway is not required to have water in it year-round and may be ephemeral or intermittent.

public lands - The BLM-administered public land surface along waterways within an RMP planning area. Those "split estate lands", where the land surface is State or privately-owned and the federal mineral estate is administered by the BLM, are not involved with these reviews. Other references to segments, parcels, corridors, and waterways all represent public lands, which is the basis for our review.

The BLM wild and scenic rivers review in the Green River RMP planning area included a three-step process of:

1. Determining if BLM-administered public lands along waterways meet the eligibility criteria to be tentatively classified as wild, scenic, or recreational;
2. Determining if any of those public lands that meet the eligibility criteria also meet the wild and scenic river suitability factors; and
3. Determining how any of those public lands that meet the suitability factors will be managed.

Step I. Wild and Scenic Rivers Eligibility Criteria Review and Tentative Classification

To meet the eligibility criteria, a waterway must be "free-flowing" and, along with its adjacent land area, must possess one or more "outstandingly remarkable" values. As part of the eligibility review, BLM planning team members reviewed all waterways in the Green

APPENDIX 4-1

River RMP planning area to see if they contained any BLM-administered public lands that meet the eligibility criteria. Only those portions of waterways flowing through BLM-administered public lands were considered. The following are the guidelines used in applying the eligibility criteria on BLM-administered public land surface in the Green River RMP planning area.

1. **Free-flowing** - Free-flowing is defined in the Wild and Scenic Rivers Act (WSRA) as "existing or flowing in natural condition without impoundment, diversion, straightening, rip-rapping, or other modification of the waterway." The existence of small dams, diversion works, or other minor structures at the time the river segment is being considered shall not automatically disqualify it for possible addition to the National Wild and Scenic Rivers System (WSRS). A river need not be "boatable or floatable" in order to be eligible; there is no "minimum flow" requirement.
2. **Outstandingly Remarkable Values** - The BLM-administered public land surface along waterways must also possess one or more outstandingly remarkable values to be eligible for further consideration. Outstandingly remarkable values relate to scenic, recreational, geologic, fish and wildlife, historic, cultural, or other similar resource values.

The term "outstandingly remarkable value" is not precisely defined in the Wild and Scenic Rivers Act. However, it should be noted that these values must be directly waterway related. The criteria for outstandingly remarkable values, used for the review of BLM-administered public land surface in the Green River RMP planning area include scenic, recreational, geologic, fisheries, wildlife, cultural, and historical.

Scenic - The landscape elements of landform, vegetation, water, color, and related factors result in notable or exemplary visual features and/or attractions. Additional factors such as seasonal variations in vegetation, scale of cultural modifications, and length of time negative intrusions are viewed can also be considered when analyzing scenic values. Scenery and visual attractions may be highly diverse over the majority of the BLM-administered public land surface involved; are not common to other waterways in the area; and must be of a quality to attract visitors from outside the area.

Recreational - Recreational opportunities on the BLM-administered public land surface are unique enough to attract visitors from outside the area. Visitors would be willing to travel long distances to use the waterway resources on the public lands for recreational purposes. Waterway related opportunities could include, but are not limited to, sightseeing, wildlife observation, photography, hiking, fishing, hunting, and boating.

Interpretive opportunities may be exceptional and attract visitors from outside the area. The waterway may provide settings for national or regional commercial usage or competitive events.

Geologic - The BLM-administered public land surface provides an example(s) of a geologic feature, process, or phenomenon that is rare, unusual, or unique to the area. The feature(s) may be in an unusually active stage of development, represent a "textbook" example, and/or represent a unique or rare combination of geologic features (e.g., erosional, volcanic, glacial, and other geologic structures).

Fisheries - The fishery values on the BLM-administered public land surface may be judged on the relative merits of either fish populations or habitat, or a combination of these conditions. For example:

- a. **Populations.** The waterway or waterway segment on BLM-administered public land surface is a contributor to one of the top producers of resident, indigenous fish species, either nationally or regionally. Of particular significance may be the

presence of wild or unique stocks, or populations of federally listed or candidate threatened or endangered species. Diversity of species is also important.

- b. **Habitat.** The BLM-administered public land surface is contributing to exceptionally high quality habitat for fish species indigenous to the region. Of particular significance may be habitat for federally-listed or candidate threatened and endangered species.

Wildlife - Wildlife values on the BLM-administered public land surface may be judged on the relative merits of either wildlife populations or habitat, or a combination of these conditions. For example:

- a. **Populations.** The BLM-administered public land surface is contributing to populations of resident or indigenous wildlife species important in the area or nationally. Of particular significance are species considered to be unique or populations of federally listed or candidate threatened or endangered species. Diversity of species is also important.
- b. **Habitat.** The BLM-administered public land surface is contributing to exceptionally high quality habitat for wildlife species important in the area or nationally, or may provide unique habitat or a critical link in habitat conditions for federally listed or candidate threatened or endangered species. Adjacent habitat conditions are such that the biological needs of the species are met.

Cultural - The BLM-administered public land surface contains examples of outstanding cultural sites which have unusual characteristics relating to prehistoric or historic use. Sites may be important in the area or nationally for interpreting prehistory or history; may be rare and represent an area where a culture or cultural period was first identified and described; may have been used concurrently by two or more cultural groups; or may have been used by cultural groups for rare or sacred purposes.

Historical - The BLM-administered public land surface contains a site(s) or feature(s) associated with a significant event, an important person, or a cultural activity of the past that was rare, unusual, or unique in the area. Eligibility for inclusion in the National Register of Historic Places, by itself, is not sufficient justification for being considered outstandingly remarkable.

Similar Values - Other values may include significant hydrologic, paleontologic, botanic, scientific, or ecologic resources, as long as they are waterway related.

3. **Tentative Classification** - At the same time that eligibility determinations are made, BLM-administered public lands that meet the eligibility criteria are also given a tentative classification (i.e., either wild, scenic, or recreational), as required by the Act. Tentative classification is based on the type and degree of human developments associated with the BLM-administered public lands involved and adjacent lands at the time of the review. Actual classification is a congressional legislative determination.

The tentative classifications, as used by BLM in Wyoming, are further defined:

Wild Waterway Areas - Wild areas are those where the waterways or sections of waterways on the BLM-administered public land surface are free of impoundments and generally inaccessible except by trail, with watersheds or shorelines essentially primitive and waters unpolluted. These represent vestiges of primitive America. Wild means undeveloped; roads, dams, or diversion works are generally absent from a quarter mile corridor on both sides of the waterway.

Scenic Waterway Areas - Scenic areas are those where the waterways or sections of waterways on the BLM-administered public land surface are generally free of impoundments, with shorelines or watersheds still largely primitive and shorelines largely undeveloped, but accessible in places by roads. Scenic does not necessarily mean the waterway corridor has to have scenery as an outstandingly remarkable value; however, it means the waterway or waterway segment may contain more development (except for major dams or diversion works) than a wild segment and less development than a recreational segment. For example, roads may cross the waterway in places but generally do not run parallel to it. In certain cases, however, if a parallel road is unpaved and well screened from the waterway by vegetation, a hill, etc., it could qualify for scenic classification.

Recreational Waterway Areas - Recreational areas are those where the waterways or sections of waterways on the BLM-administered public land surface are readily accessible by road or railroad, that may have some development along their shorelines, and that may have undergone some impoundment or diversion in the past. Parallel roads or railroads, existence of small dams, or diversions can be allowed in this classification. A recreational area classification does not imply that the waterway or section of waterway on the public land surface will be managed or have priority for recreational use or development.

Results of the Wild and Scenic Rivers Eligibility Review for the Green River RMP Planning Area

During the period of conducting the WSR eligibility review for the planning area and documenting it in the Draft EIS for the Green River RMP, the Bureau's policy and procedural guidance changed more than once. This affected the order of some of the steps (or the "process") of the review, but not the final outcome of the review.

The Green River WSR Review Team met in April 1991 to discuss the eligibility criteria and conduct the eligibility review for the waterways in the Green River RMP planning area. The team reviewed all waterways that flow in or through the area. Because of the broad interpretation of the "free flowing" criterion, all waterways reviewed were assumed to be free flowing. Using an interdisciplinary approach, the waterways were further reviewed to determine whether they contained any of the outstandingly remarkable values described in the eligibility criteria. Initially, there was no differentiation made between BLM-administered public lands, private or state owned lands, and federal lands administered by other federal agencies along the waterways. That is, when the team considered the eligibility criteria, they were applied to the entire course of a waterway that flows through the planning area, regardless of land ownership, administrative authority, or jurisdiction.

As the Bureau WSR procedural guidance developed, it was recognized that the BLM has no jurisdiction or statutory authority for making wild and scenic rivers eligibility (or suitability) determinations or any planning and management decisions on any private or state-owned lands or on any federal lands administered by other federal agencies. Thus, the BLM wild and scenic rivers review is not supposed to focus on "entire" waterways (rivers or streams) or entire courses of waterways, regardless of land ownership or management jurisdiction. Rather, it is supposed to focus on only "the BLM-administered public lands" along waterways.

Therefore, those entire waterways that were initially considered to meet the eligibility criteria were further reviewed to take a close

look at only those portions that flow through BLM-administered public lands. This subsequent analysis showed that the vast majority of the BLM-administered land parcels along the waterway review segments did not contain the outstandingly remarkable values that would qualify them as meeting the eligibility criteria.

In other words, many of the initial determinations, that BLM-administered land parcels met the wild and scenic rivers eligibility criteria, were not appropriate because they were based on values on other lands in the waterway corridors that are not under BLM jurisdiction. Many of these waterways would not likely have been initially identified as meeting the eligibility criteria, had only the individual BLM-administered land parcels been examined first.

Pursuant to BLM Manual 8351 (May 19, 1992), an additional eligibility criterion, the "Jurisdictional Considerations" criterion, was established. This new criterion provided that, where the BLM-administered public land surface represents less than 40 percent of the shoreline in a waterway or waterway segment being reviewed, the BLM-administered public land surface involved will be considered to be ineligible for further consideration. Subsequently, this jurisdictional eligibility criterion policy was rescinded (BLM Washington Office Instruction Memorandum No. 94-69, December 3, 1993), because jurisdictional considerations (administrative role or presence) are factors of suitability, rather than eligibility criteria, and are more appropriately addressed in the suitability determination phase of the review process. This situation affected the WSR review of the BLM-administered public lands along the Big Sandy River. That is, a BLM-administered land parcel along 1.5 miles of the Big Sandy River was initially determined to not meet the eligibility criteria because total BLM jurisdiction over lands in the entire review segment of the waterway was less than 40 percent. When the jurisdictional considerations criterion was rescinded, this BLM-administered land parcel was determined to meet the eligibility criteria.

In the final analysis of the eligibility review, the BLM-administered public lands along 175 of the 183 waterways reviewed were found to not have any outstandingly remarkable values and were dropped from further consideration. This left a total of 8 waterways containing BLM-administered public lands that were determined to meet the eligibility criteria. Two of these eight waterway review segments actually include the main waterway segment and some tributaries that, together, were reviewed as a "waterway unit". They are the Red Creek and Currant Creek "units". The other six waterways involving BLM-administered lands that were determined to meet the eligibility criteria are the Green River, Big Sandy River, Pacific Creek, Canyon Creek, North Fork of Bear Creek, and the Sweetwater River.

Appendix 4-2 shows the waterway segments, containing BLM-administered public lands, that were reviewed and the eligibility determinations made for the public lands involved.

Appendix 4-3 is a detailed summary of the WSR eligibility review and also shows the tentative classification (either wild, scenic, or recreational) given to each of the BLM-administered public land parcels that meet the eligibility criteria.

Step II. Wild and Scenic Rivers Suitability Review

All of the BLM-administered public lands that are found to meet the eligibility criteria and that are classified (i.e., wild, scenic, or recreational) are further reviewed to determine if they meet the wild and scenic rivers suitability factors. The suitability determinations are made after the general public; local, state, tribal, and federal

governments and agencies; and other interested parties have reviewed the eligibility and classification determinations.

Some factors to be considered in making the suitability determinations include, but are not limited to:

1. Characteristics which do or do not make the BLM-administered public lands involved a worthy addition to the National Wild and Scenic River System (WSRS).
2. Current status of landownership (including mineral ownership) and land and resource uses in the area, including the amount of private land involved, and any associated or incompatible land uses.
3. Reasonably foreseeable potential uses of the BLM-administered public lands involved and related waters which would be enhanced, foreclosed, or curtailed if they were included in the WSRS, and the values which could be foreclosed or diminished if the BLM-administered lands are not protected as part of the System.
4. Public, state, local, tribal, or Federal interest in designation or nondesignation of any part or all of the waterway involved, including the extent to which the administration of any or all of the waterway, including the costs thereof, may be shared by state, local, or other agencies and individuals.
5. Estimated cost of acquiring necessary lands and interests in lands and of administering the area if it is added to the WSRS. Section 6 of the WSRA outlines policies and limitations of acquiring lands or interests in land by donation, exchange, consent of owners, easement, transfer, assignment of rights, or condemnation within and outside established river boundaries.
6. Ability of the BLM to manage the BLM-administered public lands involved as a Wild and Scenic River or other mechanisms (existing or potential) to protect identified values other than WSR designation.
7. Historical or existing rights which would be adversely affected as to foreclose, extinguish, curtail, infringe, or constitute a taking which would entitle the owner to just compensation if the BLM-administered public lands were included in the WSRS. In the suitability review, adequate consideration will be given to rights held by other landowners and applicants, lessees, claimants or authorized users of the BLM-administered public lands involved.
8. Other issues and concerns, if any.

Results of the Wild and Scenic Rivers Suitability Review for the Green River RMP Planning Area

The Green River WSR suitability determinations were derived by screening the BLM-administered lands that were determined to meet

the WSR eligibility criteria against the above eight suitability factors. Both in-house knowledge and comments received from the public were used to make the suitability determinations. Much of the public input received during the eligibility review involved comments and discussion about which waterways were suitable for inclusion in the National Wild and Scenic Rivers System.

Some BLM-administered public lands along one of the eight waterways containing BLM-administered lands that meet the WSR eligibility criteria were determined to meet the suitability factors. These are the seven BLM-administered public land parcels along the upstream portion of the Sweetwater River review segment.

All other BLM-administered land parcels that were determined to meet the eligibility criteria did not meet the suitability factors and were dropped from further consideration. The primary suitability factors involved were factors 2 and 6. The BLM-administered lands involved are either land-locked by private lands and are inaccessible to the public, and obtaining public access to them would not be likely; or the BLM-administered lands cannot be managed in the context of wild and scenic rivers if designation were to occur, because of potential management conflicts with the interspersed (up and downstream) and adjacent private and state lands.

Appendix 4-4 is a detailed summary of the suitability review of the waterway segments containing BLM-administered public lands that were determined to meet the eligibility criteria and the suitability determinations made for the public lands involved.

Step III. Management of BLM-Administered Public Lands That Meet the Suitability Factors

BLM land use planning decisions will be developed and implemented for the BLM-administered public lands that are determined to meet the WSR suitability factors. These planning decisions will be made in the Green River RMP and will include management objectives, management actions, and appropriate allocations of land and resource uses that will maintain or enhance the outstandingly remarkable values and tentative wild and scenic waterway classifications identified on the BLM-administered public lands involved.

BLM-administered public lands that are determined to meet the suitability factors will then be managed under the BLM's land use plan management decisions, indefinitely. At some time in the future, it is possible that the Secretary of the Interior may direct the BLM to participate in the development of Wild and Scenic River Study Reports. The results and documentation of the BLM wild and scenic river reviews for the Green River RMP planning area would be used in developing any such reports. Under the requirements of the Wild and Scenic Rivers Act, if there is a need to provide any temporary or interim protection of the WSR values on suitable areas before the RMP is completed, that will also be done.

APPENDIX 4-2

WILD AND SCENIC RIVERS ELIGIBILITY REVIEW

Green River Resource Area
(September 1992)

PUBLIC INVOLVEMENT DURING THE WILD AND SCENIC RIVERS ELIGIBILITY REVIEW

In 1991, the Bureau of Land Management (BLM) reviewed the BLM-administered public lands along 183 waterways in Fremont, Sublette, Sweetwater, Uinta, and Lincoln counties to determine if they meet the Wild and Scenic Rivers (WSR) eligibility criteria of being free flowing and having one or more outstandingly remarkable values. The findings of the BLM multi-disciplinary staff were that BLM-administered public lands along 8 waterways meet the eligibility criteria.

Prior to publishing the Draft EIS in November 1992, the following presentations, briefings, or media actions took place, regarding public involvement with the Wild and Scenic Rivers eligibility criteria and process:

Bitter Creek White Water Association (1st presentation) - November 1990 in Green River, Wyoming. The Association is comprised primarily of recreational river runners who meet during late fall/winter and run rivers in spring and summer.

Group Response/Concerns - Interested in the process. Discussed which rivers in the Resource Area might qualify (Green, Sweetwater, Big Sandy). Members offered to help if appropriate.

Green River Green Belt Task Force - March 1991 in Green River, Wyoming. The Task Force is made up of volunteers from Green River who meet monthly. The purpose of the group is to improve wildlife habitat and recreational opportunities along the Green River corridor, and to enhance the "quality of life" in the town of Green River.

Group Response/Concerns - Extremely interested in how designation would affect the Task Force's long-term planning for the Green River corridor. Concern expressed that designation of the Green River could preclude recreational development plans. Discussed differences among "Wild, Scenic, and Recreational" designations.

Fishing Seminar/Workshop - March 1991, Green River, Wyoming. Annual one-day event held at the Recreation Center in Green River. BLM staffed a booth and distributed copies of Wild & Scenic Eligibility Criteria.

Group Response/Concerns - No specific concerns expressed or recorded. Information distribution about Eligibility Criteria the primary goal.

Green River RMP Open House - April 1991 in Rock Springs, Wyoming.

Group Response/Concerns - No specific concerns expressed or recorded. Information distribution about Eligibility Criteria the primary goal.

Trout Unlimited, Flaming Gorge/Lower Green River Chapter - May 1991 in Rock Springs, Wyoming.

Group Response/Concerns - Extremely interested in how designation could affect existing uses, such as livestock grazing along the Green River and particularly the Big Sandy River.

Bitter Creek White Water Association (2nd presentation) - November 1991 in Rock Springs, Wyoming.

Group Response/Concerns - Status update of what had occurred since the last time the subject was discussed. Offer of help made again.

Wyoming State Agencies Briefing - January 1991 in Cheyenne, Wyoming.

Group Response/Concerns - How would designation affect future land and water use options.

Wyoming Congressional Representatives local staff - April 1991 in Rock Springs, Wyoming.

Group Response/Concerns - How would designation affect existing uses.

BLM Rock Springs District Multiple Use Advisory Council - March 1991 in Rock Springs, Wyoming.

Group Response/Concerns - How would designation affect existing uses, such as mining and livestock grazing. Particular concern expressed about how designation would affect private land owner rights.

Rock Springs Grazing Association - March 1991 in Rock Springs, Wyoming.

Group Response/Concerns - How would designation affect existing uses, particularly mining and livestock grazing. Particular concern expressed about how designation would affect private land owner rights. Would designation constitute a "taking."

Wyoming Governor's Office - September 1992 in Cheyenne, Wyoming.

Group Response/Concerns - Concerns about how designation would affect future land and water use options; but no objections to WSR determinations at that point.

Press releases, radio interviews, and television stories were published or aired in local and regional news media outlets prior to publishing the Draft EIS for the Green River RMP. No direct input was received as a result of the media coverage.

Overall, the primary concerns people expressed dealt with how a wild and scenic river designation would affect current or future uses. Aside from the State of Wyoming, there was no sweeping opposition, in principal, to studying the BLM-administered lands along the waterways or to the eligibility criteria used. The waterways that came up repeatedly as having BLM-administered public lands that potentially meet the eligibility criteria or suitability factors in the public's eyes were the Green, Big Sandy and Sweetwater Rivers.

RESULTS OF THE WILD AND SCENIC RIVERS ELIGIBILITY REVIEW OF BLM-ADMINISTERED PUBLIC LANDS ALONG WATERWAYS IN THE GREEN RIVER RESOURCE MANAGEMENT PLAN PLANNING AREA

BLM-Administered Public Lands Along Red Creek Determined to Meet the Wild and Scenic Rivers Eligibility Criteria Segment of the Waterway Reviewed The segment of Red Creek that was reviewed is 14.25 miles long. It begins in Sec. 4, T. 12 N., R. 103 W. and ends at the border of private land at the Wyoming/Utah state line. Within this segment of the waterway, Red Creek flows through seven BLM-administered public land parcels that have been determined to meet the Wild and Scenic Rivers eligibility criteria. The creek flows through these parcels for a total of 8.25 miles (58% of the waterway reviewed). The distance the creek flows through each of these parcels ranges from 0.2 miles through the smallest parcel to 3.5 miles through the largest parcel. On these land parcels, the creek flows through scenic badlands with red eroded geologic features.

See Table A4-2-1 and Appendix 4-3 for further details on each of the BLM-administered public land parcels along Red Creek (and the following waterways in this discussion that are listed as part of the "Red Creek Unit") that meet the eligibility criteria.

BLM-Administered Public Lands Along Little Red Creek (part of Red Creek Unit) Determined to Meet the Wild and Scenic Rivers Eligibility Criteria

Segment of the Waterway Reviewed The segment of Little Red Creek that was reviewed is 4.4 miles long. It begins in Sec. 18, T. 12 N., R. 103 W. and ends at the border of private land in Sec. 35, T. 13 N., R. 104 W. Within this segment of the waterway, Little Red Creek flows through three BLM-administered public land parcels that have been determined to meet the Wild and Scenic Rivers eligibility criteria. The creek flows through these parcels for a total of 2.2 miles (50% of the waterway reviewed). The distance the creek flows through each of these parcels ranges from 0.5 miles through the smallest parcel, to 1 mile through the largest parcel. On these parcels, the creek flows through scenic badlands with red eroded geologic features.

BLM-Administered Public Lands Along June Creek (part of Red Creek Unit) Determined to Meet the Wild and Scenic Rivers Eligibility Criteria

Segment of the Waterway Reviewed The segment of June Creek that was reviewed is 2.6 miles long. It begins in Sec. 9, T. 12 N., R. 104 W. and ends at its junction with Red Creek. Within this segment of the waterway, the creek flows through one BLM-administered public land parcel that has been determined to meet the Wild and Scenic Rivers eligibility criteria. The creek flows through this parcel for a total of 2.6 miles (100% of the waterway reviewed). On this parcel, the creek flows through scenic badlands with red eroded geologic features.

BLM-Administered Public Lands Along Beef Steer Creek (part of Red Creek Unit) Determined to Meet the Wild and Scenic Rivers Eligibility Criteria

Segment of the Waterway Reviewed The segment of Beef Steer Creek that was reviewed is 4 miles long. It begins in Sec. 12, T. 13

N., R. 105 W. and ends at its junction with Red Creek. Within this segment of the waterway, the creek flows through one BLM-administered public land parcel that has been determined to meet the Wild and Scenic Rivers eligibility criteria. The creek flows through this parcel for a total of 4.0 miles (100% of the waterway reviewed). On this parcel, the creek flows through scenic badlands with red eroded geologic features.

BLM-Administered Public Lands Along Currant Creek Determined to Meet the Wild and Scenic Rivers Eligibility Criteria

Segment of the Waterway Reviewed The segment of Currant Creek that was reviewed is 17.15 miles long. It begins in Sec. 1, T. 13 N., R. 106 W. and ends at the border of the Flaming Gorge National Recreation Area. Within this segment of the waterway, Currant Creek flows through eight BLM-administered public land parcels that have been determined to meet the Wild and Scenic Rivers eligibility criteria. The creek flows through these parcels for a total of 6.3 miles (37% of the waterway reviewed). The distance the creek flows through each of these parcels ranges from 0.2 miles through the smallest parcel to 2 miles through the largest parcel. On these parcels, the creek contains populations of the Colorado River cutthroat trout, a candidate fish species.

See Table A4-2-1 and Appendix 4-3 for further details on each of the BLM-administered public land parcels along Currant Creek (and the following waterways in this discussion that are listed as part of the "Currant Creek Unit") that meet the eligibility criteria.

BLM-Administered Public Lands Along Dripping Springs Fork of Currant Creek (part of Currant Creek Unit) Determined to Meet the Wild and Scenic Rivers Eligibility Criteria

Segment of the Waterway Reviewed The segment of the Dripping Springs Fork that was reviewed is 2 miles long. It begins at the headwaters in Sec. 7, T. 13 N., R. 105 W. and ends at the border of state lands in Sec. 36, T. 14 N., R. 106 W. The creek flows through one BLM-administered public land parcel that has been determined to meet the Wild and Scenic Rivers eligibility criteria. The creek flows through this parcel for a total of 2.0 miles (100% of the waterway reviewed). On this parcel, the creek contains populations of the Colorado River cutthroat trout, a candidate fish species.

BLM-Administered Public Lands Along East Fork of Currant Creek (part of Currant Creek Unit) Determined to Meet the Wild and Scenic Rivers Eligibility Criteria

Segment of the Waterway Reviewed The segment of the East Fork of Currant Creek that was reviewed is 1 mile long. It begins at the headwaters in Sec. 7, T. 13 N., R. 105 W. and ends at its junction with Currant Creek. The creek flows through one BLM-administered public land parcel that has been determined to meet the Wild and Scenic Rivers eligibility criteria. The creek flows through this parcel for a total of 1.0 miles (100% of the waterway reviewed). On this parcel, the creek contains populations of the Colorado River cutthroat trout, a candidate fish species.

BLM-Administered Public Lands Along Middle Fork of Currant Creek (part of Currant Creek Unit) Determined to Meet the Wild and Scenic Rivers Eligibility Criteria

Segment of the Waterway Reviewed The segment of the Middle Fork of Currant Creek that was reviewed is 2 miles long. It begins in Sec. 19, T. 13 N., R. 105 W. and ends at the border of private lands in Sec. 12, T. 13 N., R. 106 W. The creek flows through one BLM-administered public land parcel that has been determined to meet the

Wild and Scenic Rivers eligibility criteria. The creek flows through this parcel for a total of 2.0 miles (100% of the waterway reviewed). On this parcel, the creek contains populations of the Colorado River cutthroat trout, a candidate fish species.

BLM-Administered Public Lands Along West Fork of Currant Creek (part of Currant Creek Unit) Determined to Meet the Wild and Scenic Rivers Eligibility Criteria

Segment of the Waterway Reviewed The segment of the West Fork of Currant Creek that was reviewed is 1.3 miles long. It begins in Sec. 14, T. 13 N., R. 106 W. and ends at the border of state lands. The creek flows through three BLM-administered public land parcels that have been determined to meet the Wild and Scenic Rivers eligibility criteria. The creek flows through these parcels for a total of 0.75 miles (58% of the waterway reviewed). The distance the creek flows through each of these parcels ranges from 0.2 miles through the smallest parcel to 0.3 miles through the largest parcel. On these parcels, the creek contains populations of the Colorado River cutthroat trout, a candidate fish species.

BLM-Administered Public Lands Along Pacific Creek Determined to Meet the Wild and Scenic Rivers Eligibility Criteria

Segment of the Waterway Reviewed The segment of Pacific Creek that was reviewed is 34.05 miles long. It begins at the headwaters in Sec. 5, T. 27 N., R. 101 W. and ends at the border of Bureau of Reclamation withdrawn lands in Sec. 23, T. 25 N., R. 105 W. The creek flows through 16 BLM-administered public land parcels that have been determined to meet the Wild and Scenic Rivers eligibility criteria. The creek flows through these parcels for a total of 22 miles (65% of the waterway reviewed). The distance the creek flows through each of these parcels ranges from 0.1 miles through the smallest parcel to 12 miles through the largest parcel. The Oregon, Mormon Pioneer, California, and Pony Express National Historic Trails parallel much of Pacific Creek through some of these BLM-administered public land parcels.

See Table A4-2-1 and Appendix 4-3 for further details on each of the BLM-administered public land parcels along Pacific Creek that meet the eligibility criteria.

BLM-Administered Public Lands Along North Fork of Bear Creek Determined to Meet the Wild and Scenic Rivers Eligibility Criteria

Segment of the Waterway Reviewed The segment of the North Fork of Bear Creek that was reviewed is 12 miles long. It begins in Sec. 1, T. 27 N., R. 100 W. and ends at its junction with Bear Creek in Sec. 5, T. 25 N., R. 98 W. The creek flows through one BLM-administered public land parcel that has been determined to meet the Wild and Scenic Rivers eligibility criteria. The creek flows through this parcel for a total of 12.0 miles (100% of the waterway reviewed). On this parcel, the creek flows through the Honeycomb Buttes Wilderness Study Area. The geology of the area is rare and the contrasting colors are scenic. The area is popular for recreationists and provides good opportunities for studying high plains desert ecology.

See Table A4-2-1 and Appendix 4-3 for further details on the BLM-administered public land parcel along the North Fork of Bear Creek that meets the eligibility criteria.

BLM-Administered Public Lands Along Canyon Creek Determined to Meet the Wild and Scenic Rivers Eligibility Criteria

Segment of the Waterway Reviewed The segment of Canyon Creek that was reviewed is 11.15 miles long. It begins in Sec. 22, T. 12 N., R. 103 W. and ends at the Wyoming-Colorado state line. Within this segment of the waterway, Canyon Creek flows through eight BLM-administered public land parcels that have been determined to meet the Wild and Scenic Rivers eligibility criteria. The creek flows through these parcels for a total of 5.05 miles (45% of the waterway reviewed). The distance the creek flows through each of these parcels ranges from 0.1 miles through the smallest parcel to 1.3 miles through the largest parcel. On these parcels, the creek flows through steep slopes bordering the toe slopes of Pine Mountain, giving scenic contrasting views of geology and vegetation. The creek is along a route (called the "Outlaw Trail") used by historic western outlaws to reach hideouts in Brown's Park (in Colorado) and is adjacent to the diamond fields of the Great Diamond "Hoax" at the base of Diamond Peak, just south of the Wyoming State Line.

See Table A4-2-1 and Appendix 4-3 for further details on each of the BLM-administered public land parcels along Canyon Creek that meet the eligibility criteria.

BLM-Administered Public Lands Along Sweetwater River Determined to Meet the Wild and Scenic Rivers Eligibility Criteria

Segment of the Waterway Reviewed The segment of the Sweetwater River that was reviewed is 29.05 miles long. It begins in Sec. 19, T. 30 N., R. 102 W. at the border of the Bridger National Forest and ends at the border of private lands in Sec. 26, T. 28 N., R. 100 W. Within this portion of the waterway, the Sweetwater River flows through 10 BLM-administered public land parcels that have been determined to meet the Wild and Scenic Rivers eligibility criteria. The river flows through these parcels for a total of 13.1 miles (45% of the waterway reviewed). The distance the river flows through each of these parcels ranges from 0.5 miles through the smallest parcel to 3 miles through the largest parcel. On these parcels, the river flows through the rugged Sweetwater Canyon. In addition, the river played a major role in the Oregon, Mormon Pioneer, California, and Pony Express National Historic Trails. Camping is very popular at campgrounds along the Sweetwater.

See Table A4-2-1 and Appendix 4-3 for further details on each of the BLM-administered public land parcels along the Sweetwater River that meet the eligibility criteria.

BLM-Administered Public Lands Along Big Sandy River Determined to Meet the Wild and Scenic Rivers Eligibility Criteria

Segment of the Waterway Reviewed The segment of the Big Sandy River that was reviewed is 74.6 miles long. It begins in Sec. 5, T. 30 N., R. 104 W. at the border of the Bridger National Forest and ends at the border of Bureau of Reclamation withdrawn lands in Sec. 25, T. 23 N., R. 108 W. Within this segment of the waterway, the Big Sandy River flows through 36 BLM-administered public land parcels. However, only one of these parcels (involving 1.5 miles of the waterway) has been determined to meet the Wild and Scenic Rivers eligibility criteria. The river flows through all 36 parcels for a total of 16.15 miles (22% of the waterway reviewed). The distance the river flows through each of these parcels ranges from 0.1 miles through the smallest parcel to 3.6 miles through the largest parcel. On these parcels, the river flows through historic areas. The Big Sandy played a major role in the Oregon, Mormon Pioneer, California, and Pony Express National Historic Trails.

APPENDIX 4-2

See Table A4-2-1 and Appendix 4-3 for further details on the BLM-administered public land parcel along the Big Sandy River that meets the eligibility criteria.

BLM-Administered Public Lands Along Green River Determined to Meet the Wild and Scenic Rivers Eligibility Criteria

Segment of the Waterway Reviewed The segment of the Green River that was reviewed is 71 miles long. It begins in Sec. 24, T. 28 N., R. 112 W. and ends at the border of private lands in Sec. 16, T. 12 N., R. 107 W. Within this segment of the waterway, the Green River flows through 9 BLM-administered public land parcels that

have been determined to meet the Wild and Scenic Rivers eligibility criteria. The river flows through these parcels for a total of 2.85 miles (4% of the waterway reviewed). The distance the river flows through each of these parcels ranges from 0.1 miles through the smallest parcel to 0.5 miles through the largest parcel. The Green River is a popular recreation area for fishing, floating, camping, etc. The Green River played a major role in the Oregon, Mormon Pioneer, California, and Pony Express National Historic Trails.

See Table A4-2-1 and Appendix 4-3 for further details on the BLM-administered public land parcels along the Green River that meet the eligibility criteria.

TABLE A4-2-1
SUMMARY OF WILD AND SCENIC RIVERS ELIGIBILITY REVIEW
Green River Resource Management Plan Planning Area

River/Stream (Waterway Reviewed)	Free Flowing?	Outstandingly Remarkable Values on BLM-Administered Lands	BLM-Administered Lands Eligible?
Alkali Creek	yes	no	no
Alkali Creek ¹	yes	no	no
Alkali Creek ¹	yes	no	no
Alkali Draw	yes	no	no
Amidon Creek	yes	no	no
Antelope Creek	yes	no	no
Antelope Wash	yes	no	no
Basin Creek	yes	no	no
Beans Spring Creek	yes	no	no
Bear Creek	yes	no	no
Beaver Creek	yes	no	no
Beaver Creek	yes	no	no
Beef Steer Creek	yes	yes, Scenic	yes
Big Dry Creek	yes	no	no
Big Hermit Gulch	yes	no	no
Big Sandy River	yes	yes, Historic	yes
Birch Creek	yes	no	no
Bitter Creek	yes	no	no
Black Butte Creek	yes	no	no
Black Butte Creek ¹	yes	no	no
Black Rock Creek	yes	no	no
Black Rock Creek	yes	no	no
Blacks Fork River	yes	no	no
Blair Creek	yes	no	no
Blutcher Creek	yes	no	no
Bone Draw	yes	no	no
Browse Creek	yes	no	no
Buckboard Wash	yes	no	no
Burnt Canyon Creek	yes	no	no
Burnt Canyon Creek ¹	yes	no	no
Burnt Fork	yes	no	no
Camp Creek	yes	no	no
Canyon Creek	yes	yes, Scenic, Historic	yes
Carlson Draw	yes	no	no
Carter Spring Creek	yes	no	no
Castello Creek	yes	no	no
Cedar Creek	yes	no	no
Chicken Creek	yes	no	no
Circle Creek	yes	no	no
Circle Spring Draw	yes	no	no
Clear Creek	yes	no	no
Corral Creek	yes	no	no

APPENDIX 4-2

TABLE A4-2-1 (Continued)

SUMMARY OF WILD AND SCENIC RIVERS ELIGIBILITY REVIEW Green River Resource Management Plan Planning Area

River/Stream (Waterway Reviewed)	Free Flowing?	Outstandingly Remarkable Values on BLM-Administered Lands	BLM-Administered Lands Eligible?
Coyote Creek	yes	no	no
Crump Creek	yes	no	no
Currant Creek	yes	yes, Candidate Fish Species ²	yes
Currant Creek, Dripping Springs Fork	yes	yes, Candidate Fish Species ²	yes
Currant Creek, East Fork	yes	yes, Candidate Fish Species ²	yes
Currant Creek, Middle Fork	yes	yes, Candidate Fish Species ²	yes
Currant Creek, West Fork	yes	yes, Candidate Fish Species ²	yes
Cutthroat Draw Creek	yes	no	no
Dans Creekyes	no	no	
Dead Man Wash	yes	no	no
Dead Ox Creek	yes	no	no
Dry Canyon	yes	no	no
Dry Creek	yes	no	no
Dry Sandy River	yes	no	no
Dutch Joe Creek	yes	no	no
Ely Creek	yes	no	no
East Draw	yes	no	no
East Grass Creek	yes	no	no
East Lander Creek	yes	no	no
East Salt Wells	yes	no	no
East Sweetwater	yes	no	no
East Wolf Creek	yes	no	no
Eighteen Mile Canyon	yes	no	no
Eighteen Mile Creek	yes	no	no
Eighteen Mile Flowing Well	yes	no	no
Fish Creek	yes	no	no
Flume Creek	yes	no	no
Fog Gulch	yes	no	no
Four Mile Gulch	yes	no	no
Gap Creek	yes	no	no
Gold Creek	yes	no	no
Gooseberry Creek	yes	no	no
Granary Draw	yes	no	no
Grass Creek	yes	no	no
Greasewood Creek	yes	no	no
Green River	yes	yes, Wildlife, Historic, Recreation	yes
Harris Slough	yes	no	no
Hay Creek	yes	no	no
Henry's Fork River	yes	no	no
Horsethief Canyon	yes	no	no
Jack Creek	yes	no	no
Jack Morrow Creek	yes	no	no
Jonah Gulch	yes	no	no
Joyce Creek	yes	no	no
June Creek	yes	yes, Scenic ³	yes
June Creek ¹	yes	no	no
Killpecker Creek	yes	no	no
Kinney Spring Creek	yes	no	no
Lander Creek	yes	no	no
Little Basin Creek	yes	no	no
Little Beaver Creek	yes	no	no
Little Bitter Creek	yes	no	no
Little Dry Creek	yes	no	no
Little Dry Creek ¹	yes	no	no
Little Firehole Creek	yes	no	no
Little Hermit Gulch	yes	no	no

TABLE A4-2-1 (Continued)

SUMMARY OF WILD AND SCENIC RIVERS ELIGIBILITY REVIEW
Green River Resource Management Plan Planning Area

River/Stream (Waterway Reviewed)	Free Flowing?	Outstandingly Remarkable Values on BLM-Administered Lands	BLM-Administered Lands Eligible?
Little Mitchell Slough	yes	no	no
Little Sandy Creek	yes	no	no
Little Sweetwater Creek	yes	no	no
Lizzie Spring Creek	yes	no	no
Long Draw	yes	no	no
Long Draw ¹	yes	no	no
Louse Creek	yes	no	no
Mitchell Slough	yes	no	no
Middle Marsh Creek	yes	no	no
Mill Creek	yes	no	no
Mill Creek ¹	yes	no	no
Monument Draw	yes	no	no
Monument Creek	yes	no	no
No Name Creek	yes	no	no
North Little Sweetwater Creek	yes	no	no
North Fork of Bear Creek	yes	yes, Geologic, Scenic, Recreation, Other (Biology)	yes
Ord Creek	yes	no	no
Oregon Gulch	yes	no	no
Oregon Slough	yes	no	no
Pacific Butte Spring	yes	no	no
Pacific Creek	yes	yes, Historic, Fishery	yes
Palmer Draw	yes	no	no
Parnell Creek	yes	no	no
Patrick Draw	yes	no	no
Pine Creek	yes	no	no
Pine Creek ¹	yes	no	no
Pine Creek ¹	yes	no	no
Little Pine Creek	yes	no	no
Poison Creek	yes	no	no
Pool Creek	yes	no	no
Pretty Water Creek	yes	no	no
Red Creek	yes	yes, Scenic ³	yes
Red Creek ¹	yes	no	no
Little Red Creek	yes	yes, Scenic ³	yes
Rock Cabin Creek	yes	no	no
Sage Creek	yes	no	no
Sage Creek ¹	yes	no	no
East Salt Wells Creek	yes	no	no
Salt Wells Creek	yes	no	no
Sand Creek	yes	no	no
Scott Canyon	yes	no	no
Sculpin Creek	yes	no	no
Sharps Meadow Creek	yes	no	no
Shell Creek	yes	no	no
Shute Creek	yes	no	no
Side Creek	yes	no	no
Skull Creek	yes	no	no
Slaughterhouse Gulch	yes	no	no
Smiley Draw	yes	no	no
Snow Creek	yes	no	no
Snow Spring Creek	yes	no	no
South Fork	yes	no	no
South Pack Saddle	yes	no	no
Spitzi Creek	yes	no	no
Squaw Creek	yes	no	no
Spring Creek	yes	no	no

TABLE A4-2-1 (Continued)

SUMMARY OF WILD AND SCENIC RIVERS ELIGIBILITY REVIEW
Green River Resource Management Plan Planning Area

River/Stream (Waterway Reviewed)	Free Flowing?	Outstandingly Remarkable Values on BLM-Administered Lands	BLM-Administered Lands Eligible?
Spring Creek ¹	yes	no	no
Spring Creek ¹	yes	no	no
Spring Creek ¹	yes	no	no
Spring Creek ¹	yes	no	no
Station Draw	yes	no	no
Sugarloaf Marsh Creek	yes	no	no
Sulphur Creek	yes	no	no
East Sweetwater River	yes	no	no
Sweetwater Gap Ranch Fork	yes	no	no
Sweetwater Creek	yes	no	no
Sweetwater River	yes	yes, Historic, Scenic, Recreation	yes
Tally Pit Draw	yes	no	no
Ten Mile Draw	yes	no	no
Three Mile Meadow	yes	no	no
Tie Creek	yes	no	no
Trout Creek	yes	no	no
Twelve Mile Gulch	yes	no	no
Upper Marsh Creek	yes	no	no
Vermillion Creek	yes	no	no
Vermillion Creek, North Fork	yes	no	no
Washington Draw	yes	no	no
Water Hole Draw	yes	no	no
West Canyon Creek	yes	no	no
West Little Creek	yes	no	no
West Pacific Creek	yes	no	no
West Spring Creek	yes	no	no
West Willow Creek	yes	no	no
White Acorn Creek	yes	no	no
Winter Fat Creek	yes	no	no
Worm Creek	yes	no	no

¹ There are several examples of different creeks with the same name.

² Currant Creek and the Dripping Springs, East, Middle, and West Forks are being considered as one unit.

³ Beef Steer Creek, June Creek, Red Creek, and Little Red Creek are being considered as one unit.

APPENDIX 4-3

IDENTIFICATION AND CLASSIFICATION OF BLM- ADMINISTERED PUBLIC LANDS WITHIN THE GREEN RIVER RESOURCE MANAGEMENT PLAN PLANNING AREA DETERMINED TO MEET THE WILD AND SCENIC RIVERS ELIGIBILITY CRITERIA

(September 1992)

APPENDIX 4-3

IDENTIFICATION AND CLASSIFICATION OF BLM-ADMINISTERED PUBLIC LANDS WITHIN THE GREEN RIVER RESOURCE MANAGEMENT PLAN PLANNING AREA DETERMINED TO MEET THE WILD AND SCENIC RIVERS ELIGIBILITY CRITERIA

(September 1992)

<i>BLM-Administered Public Land Parcel Number</i>	<i>Length of Waterway Across BLM Land Parcel, in Miles</i>	<i>Name of Waterway, or Waterway Review Segment, and Location of BLM-Administered Public Land Parcel</i>	<i>Distance to Next BLM Land Parcel, in Miles</i>	<i>Notes/Description/Outstandingly Remarkable Values of BLM-Administered Public Land Parcel</i>	<i>Tentative Classification of Waterway Across BLM-Administered Public Land Parcel</i>
		LITTLE RED CREEK (Part of Red Creek Unit)		Outstandingly remarkable values of the BLM-administered lands in the waterway review segment include scenic; the red eroded geologic features are remarkable scenic badlands, which is unusual in this area. The watershed is relatively untouched and pristine.	
1	0.5	R. 103 W., T. 12 N., Section 18, from border of state land northwest to private land border.	2.0	Low riparian; two 2-tracks in waterway corridor; one 2-track crosses creek.	Scenic
2	1.0	R. 104 W., T. 12 N., Section 12, from border of private land north to border of private land in Section 1.	0.2	Low riparian; road parallels entire east bank of creek through BLM-administered parcel and crosses creek; seismic line parallels west bank and crosses creek; 1/4 mile is part of public water reserve.	Recreational
3	0.7	R. 104 W., T. 12 N., Section 1, from border of private land northwest to border of private land, R. 104 W., T. 13 N., Section 35.	End of waterway segment reviewed	Low riparian; adjacent private lands within waterway corridor; road and two 2-tracks in corridor parallel both banks.	Recreational
<i>Total Miles Across BLM Lands</i>	2.2	TOTAL LENGTH OF WATERWAY SEGMENT REVIEWED (miles)	4.4		
	50%	% BLM JURISDICTION OF WATERWAY SEGMENT REVIEWED			

<i>BLM-Administered Public Land Parcel Number</i>	<i>Length of Waterway Across BLM Land Parcel, in Miles</i>	<i>Name of Waterway, or Waterway Review Segment, and Location of BLM-Administered Public Land Parcel</i>	<i>Distance to Next BLM Land Parcel, in Miles)</i>	<i>Notes/Description/Outstandingly Remarkable Values of BLM-Administered Public Land Parcel</i>	<i>Tentative Classification of Waterway Across BLM-Administered Public Land Parcel</i>
		JUNE CREEK (Part of Red Creek Unit)		Outstandingly remarkable values of BLM-administered lands in the waterway review segment include scenic; the red eroded geologic features are remarkable scenic badlands which is unusual in this area. The watershed is relatively untouched and pristine.	
1	2.6	R. 104 W., T. 12 N., Section 9, from border of state land north to junction with Red Creek, R. 104 W., T. 13 N., Section 34.	End of Waterway Segment Reviewed	Low-moderate riparian; 2-track parallels entire west bank of creek; four 2-track crossings of creek.	Recreational
<i>Total Miles Across BLM Lands</i>	2.6	TOTAL LENGTH OF WATERWAY SEGMENT REVIEWED (miles)	2.6		
	100%	% BLM JURISDICTION OF WATERWAY SEGMENT REVIEWED			

<i>BLM-Administered Public Land Parcel Number</i>	<i>Length of Waterway Across BLM Land Parcel, in Miles</i>	<i>Name of Waterway, or Waterway Review Segment, and Location of BLM-Administered Public Land Parcel</i>	<i>Distance to Next BLM Land Parcel, in Miles)</i>	<i>Notes/Description/Outstandingly Remarkable Values of BLM-Administered Public Land Parcel</i>	<i>Tentative Classification of Waterway Across BLM-Administered Public Land Parcel</i>
		BEEF STEER CREEK (part of Red Creek Unit)		Outstandingly remarkable values of BLM-administered lands in the waterway review segment include scenic; the red eroded geologic features are remarkable scenic badlands which is unusual in this area. The watershed is relatively untouched and pristine.	
1	4.0	R. 105 W., T. 13 N., Section 12, from headwaters southeast to junction with Red Creek, R. 104 W., T. 13 N., Section 13.	End of Waterway Segment Reviewed	Low-moderate riparian; 3 seismic crossings; four 2-track access points on west side of creek.	Scenic
<i>Total Miles Across BLM Lands</i>	4.0	TOTAL LENGTH OF WATERWAY SEGMENT REVIEWED (miles)	4.0		
	100%	% BLM JURISDICTION OF WATERWAY SEGMENT REVIEWED			

<i>BLM-Administered Public Land Parcel Number</i>	<i>Length of Waterway Across BLM Land Parcel, in Miles</i>	<i>Name of Waterway, or Waterway Review Segment, and Location of BLM-Administered Public Land Parcel</i>	<i>Distance to Next BLM Land Parcel, in Miles</i>	<i>Notes/Description/Outstandingly Remarkable Values of BLM-Administered Public Land Parcel</i>	<i>Tentative Classification of Waterway Across BLM-Administered Public Land Parcel</i>
		RED CREEK (Part of Red Creek Unit)		Outstandingly remarkable values of BLM-administered lands in the waterway review segment include scenic; the red eroded geologic features are remarkable scenic badlands which is unusual in this area. The watershed is relatively untouched and pristine.	
1	0.8	R. 103 W., T. 12 N., Section 4, from headwaters spring, north to border of state land, R. 103 W., T. 13 N., Section 34.	0.3	Adjacent state lands within waterway corridor. Low riparian. Heavily timbered in corridor with stock trails cut to creek. Beaver pond stocked with Colorado River cutthroat trout. Two-track in corridor on ridgetop above creek.	Recreational
2	0.2	R. 103 W., T. 13 N., Section 34, from border of state land northwest to border of state land, Section 33.	3.0	Low-moderate riparian. Heavily timbered in corridor. Series of dry historic beaver ponds. Two-track in corridor on ridgetop above creek.	Recreational
3	0.25	R. 104 W., T. 13 N., Section 36, from border of state land west to border of state land.	0.4	Low-moderate riparian; 2-track parallels south bank of creek.	Recreational
4	0.3	R. 104 W., T. 13 N., Section 35, from border of private land northwest to border of private land, Section 34.	0.5	Adjacent low riparian private lands within waterway corridor; 2-track parallels creek on north 0.2 mile.	Scenic
5	3.5	R. 104 W., T. 13 N., Section 34, from border of private land west to border of state land, Section 31.	0.8	Low riparian; two 2-track crossings, two 2-tracks parallel south bank of creek along 20% of distance through BLM-administered parcel; 1 seismic crossing.	Recreational
6	2.6	R. 105 W., T. 12 N., Section 1, from border of state land southwest to border of private land Section 15.	1.0	Low riparian; no crossings; eight 2-track access points on both sides of creek through BLM-administered parcel.	Scenic
7	0.6	R. 105 W., T. 12 N., Section 22, from border of private land south to Wyoming-Utah state line and private land border.	End of Waterway Segment Reviewed	Low riparian; road crosses creek and parallels 50% of creek through BLM-administered parcel; ranch 3/4 mile SE of lower end of BLM-administered parcel.	Recreational
<i>Total Miles Across BLM Lands</i>	8.25	TOTAL LENGTH OF WATERWAY SEGMENT REVIEWED (miles)	14.25		
	58%	% BLM JURISDICTION OF WATERWAY SEGMENT REVIEWED			

<i>BLM-Administered Public Land Parcel Number</i>	<i>Length of Waterway Across BLM Land Parcel, in Miles</i>	<i>Name of Waterway, or Waterway Review Segment, and Location of BLM-Administered Public Land Parcel</i>	<i>Distance to Next BLM Land Parcel, in Miles</i>	<i>Notes/Description/Outstandingly Remarkable Values of BLM-Administered Public Land Parcel</i>	<i>Tentative Classification of Waterway Across BLM-Administered Public Land Parcel</i>
		CURRENT CREEK (part of Currant Creek Unit)		Outstandingly remarkable values of BLM-administered lands in the waterway review segment include fisheries; there are populations of the Colorado River cutthroat trout in the watershed. This candidate species is a pure strain.	
1	1.2	R. 106 W., T. 13 N., Section 1, from border of state land north to border of state land, R. 106 W., T. 14 N., Section 36.	0.6	Moderate riparian; no roads in waterway corridor through BLM-administered land; nearest access is 2-track parallel to creek 1/2 mile west on bench.	Wild
2	0.5	R. 106 W., T. 14 N., Section 36, from border of state land north to border of state land, Section 25.	0.8	Moderate riparian; no roads in waterway corridor through BLM-administered land; nearest access is 2-track parallel to creek 1/2 mile west on bench.	Wild
3	0.8	R. 106 W., T. 14 N., Section 25, from border of state land northwest to border of state land, Section 24.	1.5	Moderate riparian; one 2-track parallels east bank of creek in lower end of BLM-administered parcel; public water reserve covers 80% of creek through BLM-administered land; adjacent state lands within waterway corridor.	Scenic
4	2.0	R. 106 W., T. 14 N., Section 11, from border of state land northwest to border of private land, Section 10.	1.25	Moderate to heavy riparian; 2-track parallels 1.5 miles of creek on north side; 1/4 mile of creek through BLM-administered land covered by public water reserve.	Scenic
5	0.5	R. 106 W., T. 14 N., Section 5, from border of state land west to border of private land, Section 31.	2.0	Moderate to heavy riparian; entire creek through BLM-administered land is covered by public water reserve; one 2-track parallels entire distance of creek through BLM-administered land and crosses once; another 2-track follows opposite side of creek along 50% of distance through BLM-administered land.	Scenic
6	0.5	R. 107 W., T. 14 N., Section 1, from border of private land northwest to border of private land.	4.5	Heavy riparian; 2-track parallels both sides creek; adjacent private lands within waterway corridor at each end (up and downstream) of BLM-administered parcel; ranch approximately 1/2 mile downstream from BLM-administered parcel.	Scenic
7	0.6	R. 107 W., T. 15 N., Section 30, from border of private land west to border of private land.	0.2	Low-moderate riparian; road parallels north bank of creek entire distance through BLM-administered parcel; one 2-track access to creek.	Recreational

8	0.2	R. 107 W., T. 15 N., Section 30, from border of private land west to border of Flaming Gorge NRA.	End of Waterway Segment Reviewed	Low-moderate riparian; road and 2-track parallel entire distance of creek through BLM-administered parcel on north side.	Recreational
<i>Total Miles Across BLM Lands</i>	6.3	TOTAL LENGTH OF WATERWAY SEGMENT REVIEWED (miles)	17.15		
	37%	% BLM JURISDICTION OF WATERWAY SEGMENT REVIEWED			

<i>BLM-Administered Public Land Parcel Number</i>	<i>Length of Waterway Across BLM Land Parcel, in Miles</i>	<i>Name of Waterway, or Waterway Review Segment, and Location of BLM-Administered Public Land Parcel</i>	<i>Distance to Next BLM Land Parcel, in Miles)</i>	<i>Notes/Description/Outstandingly Remarkable Values of BLM-Administered Public Land Parcel</i>	<i>Tentative Classification of Waterway Across BLM-Administered Public Land Parcel</i>
		DRIPPING SPRINGS FORK, CURRANT CREEK (part of Currant Creek Unit)		Outstandingly remarkable values of BLM-administered lands in the waterway review segment include fisheries; there are populations of the Colorado River cutthroat trout in the watershed. This candidate species is a pure strain.	
1	2.0	R. 105 W., T. 13 N., Section 7, from headwaters north to border of state land; R. 106 W., T. 14 N., Section 36.	End of Waterway Segment Reviewed	Heavy riparian; 1 powerline crossing; 2-track parallels upstream half (southern) of creek; 1 mile of creek across BLM-administered land is covered by public water reserve; adjacent state lands within waterway corridor.	Scenic
<i>Total Miles Across BLM Lands</i>	2.0	TOTAL LENGTH OF WATERWAY SEGMENT REVIEWED (miles)	2.0		
	100%	% BLM JURISDICTION OF WATERWAY SEGMENT REVIEWED			

<i>BLM-Administered Public Land Parcel Number</i>	<i>Length of Waterway Across BLM Land Parcel, in Miles</i>	<i>Name of Waterway, or Waterway Review Segment, and Location of BLM-Administered Public Land Parcel</i>	<i>Distance to Next BLM Land Parcel, in Miles)</i>	<i>Notes/Description/Outstandingly Remarkable Values of BLM-Administered Public Land Parcel</i>	<i>Tentative Classification of Waterway Across BLM-Administered Public Land Parcel</i>
		EAST FORK CURRANT CREEK (part of currant Creek Unit)		Outstandingly remarkable values of BLM-administered lands in the waterway review segment include fisheries; there are populations of the Colorado River cutthroat trout in the watershed. This candidate species is a pure strain.	
1	1.0	R. 105 W., T. 13 N., Section 7, from headwaters north to junction with Currant Creek, R. 106 W., T. 13 N., Section 1.	End of Waterway Segment Reviewed	Moderate-heavy riparian; 1 powerline crossing; one 2-track parallels west bank of creek.	Scenic
<i>Total Miles Across BLM Lands</i>	1.0	TOTAL LENGTH OF WATERWAY SEGMENT REVIEWED (miles)	1.0		
	100%	% BLM JURISDICTION OF WATERWAY SEGMENT REVIEWED			

<i>BLM-Administered Public Land Parcel Number</i>	<i>Length of Waterway Across BLM Land Parcel, in Miles</i>	<i>Name of Waterway, or Waterway Review Segment, and Location of BLM-Administered Public Land Parcel</i>	<i>Distance to Next BLM Land Parcel, in Miles</i>	<i>Notes/Description/Outstandingly Remarkable Values of BLM-Administered Public Land Parcel</i>	<i>Tentative Classification of Waterway Across BLM-Administered Public Land Parcel</i>
		MIDDLE FORK CURRANT CREEK (part of Currant Creek Unit)		Outstandingly remarkable values of BLM-administered lands in the waterway review segment include fisheries; there are populations of the Colorado River cutthroat trout in the watershed. This candidate species is a pure strain.	
1	2.0	R. 105 W., T. 13 N., Section 19, northwest to border of state land, R. 106 W., T. 13 N., Section 12.	End of Waterway Segment Reviewed	Moderate-heavy riparian; 1 powerline crossing; one 2-track parallels lower 50% in the downstream portion of the west bank.	Scenic
<i>Total Miles Across BLM Lands</i>	2.0	TOTAL LENGTH OF WATERWAY SEGMENT REVIEWED (miles)	2.0		
	100%	% BLM JURISDICTION OF WATERWAY SEGMENT REVIEWED			

<i>BLM-Administered Public Land Parcel Number</i>	<i>Length of Waterway Across BLM Land Parcel, in Miles</i>	<i>Name of Waterway, or Waterway Review Segment, and Location of BLM-Administered Public Land Parcel</i>	<i>Distance to Next BLM Land Parcel, in Miles)</i>	<i>Notes/Description/Outstandingly Remarkable Values of BLM-Administered Public Land Parcel</i>	<i>Tentative Classification of Waterway Across BLM-Administered Public Land Parcel</i>
		WEST FORK CURRANT CREEK (part of Currant Creek Unit)		Outstandingly remarkable values of BLM-administered lands in the waterway review segment include fisheries; there are populations of the Colorado River cutthroat trout in the watershed. This candidate species is a pure strain.	
1	0.25	R. 106 W., T. 13 N., Section 14, from border of state land north to border of state land.	0.3	Low riparian; one 2-track parallels west bank of creek.	Recreational
2	0.2	R. 106 W., T. 13 N., Section 11, from border of state land north to border of state land.	0.25	Low riparian; no roads within corridor through BLM-administered parcel; nearest access road 1/2 mile west parallels creek on ridge.	Wild
3	0.3	R. 106 W., T. 13 N., Section 12, from border of state land, north to border of state land.	End of Waterway Segment Reviewed	Low riparian,; one 2-track access at lower end of BLM-administered parcel.	Recreational
<i>Total Miles Across BLM Lands</i>	0.75	TOTAL LENGTH OF WATERWAY SEGMENT REVIEWED (miles)	1.3		
	58%	% BLM JURISDICTION OF WATERWAY SEGMENT REVIEWED			

BLM-Administered Public Land Parcel Number	Length of Waterway Across BLM Land Parcel, in Miles	Name of Waterway, or Waterway Review Segment, and Location of BLM-Administered Public Land Parcel	Distance to Next BLM Land Parcel, in Miles)	Notes/Description/Outstandingly Remarkable Values of BLM-Administered Public Land Parcel	Tentative Classification of Waterway Across BLM-Administered Public Land Parcel
		PACIFIC CREEK		Outstandingly remarkable values of BLM-administered lands the waterway review segment include historic; the Oregon, Mormon Pioneer, California, and Pony Express National Historic Trails parallel much of Pacific Creek. There were many pioneer camping spots along the creek. A Pony Express station was located immediately beside Pacific Springs.	
1	3.5	R. 101 W., T. 27 N., Section 5, from headwaters west to border of private lands, R. 102 W., T. 27 N., Section 1.	2.0	Low riparian; road/2-track along entire length and right next to creek; historic trail within waterway corridor.	Recreational
2	4.0	R. 102 W., T. 27 N., Section 11, from border of private land southwest to border of private land, Section 21.	1.0	Low-moderate riparian; three 2-track crossings; dam/structure in channel; 2-tracks on both sides of creek upstream half (northeast portion) and 1 on downstream half; other 2-tracks within waterway corridor; historic trail within waterway corridor.	Recreational
3	0.5	R. 102 W., T. 27 N., Section 29, from border of private land southwest to border of private land.	0.8	Moderate-heavy riparian; two 2-tracks within waterway corridor parallel north bank of creek.	Scenic
4	0.2	R. 102 W., T. 27 N., Section 31, from border of private land southwest to border of private land.	1.0	Low riparian; road parallels north bank of creek within waterway corridor.	Scenic
5	0.2	R. 103 W., T. 26 N., Section 1, from border of state land west to border of state land.	0.25	Low riparian; 2 seismic crossings of creek; adjacent state lands within waterway corridor.	Scenic
6	0.3	R. 103 W., T. 26 N., Section 2, from border of state land southwest to border of state land.	0.6	Low riparian; old railroad grade access 1/2 mile north of creek; no roads within corridor; adjacent state lands within waterway corridor.	Wild
7	0.1	R. 103 W., T. 26 N., Section 2, from border of state land southwest to border of state land.	0.2	Low riparian; railroad grade within waterway corridor; adjacent state lands within waterway corridor.	Scenic
8	0.1	R. 103 W., T. 26 N., Section 2, from border of state land southwest to border of state land.	1.0	Low riparian; 1 seismic crossing; railroad grade within waterway corridor; adjacent state lands within waterway corridor.	Recreational
9	0.1	R. 103 W., T. 26 N., Section 10, from border of state land south to border of state land.	0.1	Low riparian; railroad grade crosses creek; adjacent state lands within waterway corridor.	Recreational

10	0.2	R. 103 W., T. 26 N., Section 10, from border of state land southwest to border of state land.	2.0	Low riparian; railroad grade within waterway corridor; 2-track crosses creek; one other 2-track to creek; adjacent state lands within waterway corridor.	Recreational
11	0.1	R. 103 W., T. 26 N., Section 17, from border of state land southwest to border state land.	1.0	Low riparian; railroad grade within waterway corridor; two 2-tracks within waterway corridor and one 2-track along creek through BLM-administered parcel; adjacent state lands within waterway corridor.	Recreational
12	0.1	R. 103 W., T. 26 N., Section 19, from border of state land southwest to border of state land.	0.3	Low riparian; one 2-track within waterway corridor.	Scenic
13	0.3	R. 103 W., T. 26 N., Section 19, from border of state land southwest to border of state land.	0.2	Low riparian; one 2-track within waterway corridor.	Recreational
14	0.1	R. 104 W., T. 26 N., Section 24, from border of state land southwest to border of state land.	1.5	Low riparian; one 2-track parallels north bank of creek.	Recreational
15	0.2	R. 104 W.9, T. 26 N., Section 26, from border of state land west to border of state land.	0.1	Low riparian; railroad grade within waterway corridor; 3 two-tracks in corridor (1 crosses creek).	Recreational
16	12.0	R. 104 W., T. 26 N., Section 26, from border of state land southwest to border of Bureau of Reclamation lands, R. 105 W., T. 25 N., Section 23.	End of Waterway Segment Reviewed	Low riparian; railroad grade within waterway corridor entire length of creek through BLM-administered parcel; railroad crosses one time, 2-tracks parallel entire creek distance through BLM-administered parcel; 2 road and three 2-track crossings of the creek.	Recreational
<i>Total Miles Across BLM Lands</i>	22.0	TOTAL LENGTH OF WATERWAY SEGMENT REVIEWED (miles)	34.05		
	65%	% BLM JURISDICTION OF WATERWAY SEGMENT REVIEWED			

<i>BLM-Administered Public Land Parcel Number</i>	<i>Length of Waterway Across BLM Land Parcel, in Miles</i>	<i>Name of Waterway, or Waterway Review Segment, and Location of BLM-Administered Public Land Parcel</i>	<i>Distance to Next BLM Land Parcel, in Miles)</i>	<i>Notes/Description/Outstandingly Remarkable Values of BLM-Administered Public Land Parcel</i>	<i>Tentative Classification of Waterway Across BLM-Administered Public Land Parcel</i>
		NORTH FORK OF BEAR CREEK		Outstandingly remarkable values of BLM-administered lands in the waterway review segment include geologic, scenic, recreation, and scientific. The creek flows through the Honeycomb Buttes Wilderness Study Area. The geology of the area is rare and the contrasting colors are scenic. Popular for recreationists and good opportunities for studying high plains desert ecology. The waterway review segment is intermittent.	
1	12.0	R. 100 W., T. 27 N., Section 1, from head waters southeast to Junction with Bear Creek R. 98 W, T. 25 N., Section 5.	End of Waterway Segment Reviewed	Very low riparian; 1 faint 2-track within waterway corridor for approximately 1 mile at upstream end, and one 2-track road crosses at downstream end of BLM-administered parcel.	Wild
<i>Total Miles Across BLM Lands</i>	12.0	TOTAL LENGTH OF WATERWAY SEGMENT REVIEWED (miles)	12.0		
	100%	% BLM JURISDICTION OF WATERWAY SEGMENT REVIEWED			

<i>BLM-Administered Public Land Parcel Number</i>	<i>Length of Waterway Across BLM Land Parcel, in Miles</i>	<i>Name of Waterway, or Waterway Review Segment, and Location of BLM-Administered Public Land Parcel</i>	<i>Distance to Next BLM Land Parcel, in Miles)</i>	<i>Notes/Description/Outstandingly Remarkable Values of BLM-Administered Public Land Parcel</i>	<i>Tentative Classification of Waterway Across BLM-Administered Public Land Parcel</i>
		CANYON CREEK		Outstandingly remarkable values of BLM-administered lands in the waterway review segment include scenic and historic. The creek has steep slopes bordering the toe slopes of Pine Mountain giving scenic contrasting views of geology and vegetation. The creek is along the route used by Western outlaws to reach hideouts in Brown's Park, in Colorado. Also adjacent to the diamond fields of the Great Diamond "Hoax" at the base of Diamond Peak, just south of the Wyoming state line.	
1	1.3	R. 103 W., T. 12 N., Section 22, from headwaters northeast to border of private land, Section 24.	0.7	Low-moderate riparian; road and 2-track parallel 50% of creek distance through BLM-administered parcel; 3 seismic crossings; adjacent state lands within corridor at upstream end of BLM-administered parcel; adjacent private lands within corridor at downstream end of BLM-administered parcel.	Recreational
2	0.25	R. 102 W., T. 12 N., Section 18, from border of private land northeast to border of private land.	0.5	Low riparian; two 2-tracks to creek; road parallels south side of creek (within 1/4 mile) through BLM-administered parcel.	Recreational
3	0.2	R. 102 W., T. 12 N., Section 18, from border of private land northeast to border of state land.	1.0	Low riparian; 2-track parallels creek on south side.	Recreational
4	1.1	R. 102 W., T. 12 N., Section 17, from border of state land southeast to border of private land, Section 16 (SE corner).	1.0	Low-riparian; road parallels north side of creek through BLM-administered parcel; 1 old irrigation diversion; 2 roads and 3 seismic crossings.	Recreational
5	1.1	R. 102 W., T. 12 N., Section 23, from border of private land east to border of private land.	0.7	Low-moderate riparian; road parallels north side of creek through BLM-administered parcel; 1 new irrigation diversion.	Recreational
6	0.6	R. 102 W., T. 12 N., Section 13, from border of private land east to border of private land, R. 101 W., T. 12 N., Section 18.	1.6	Moderate riparian; road crosses creek and parallels north side of creek through BLM-administered parcel.	Recreational
7	0.1	R. 101 W., T. 12 N., Section 20, from border of state land southeast to border of private land.	0.6	Moderate riparian; bench road parallels north side of creek (1/8 mile from creek) through BLM-administered parcel.	Recreational

8	0.4	R. 101 W., T. 12 N., Section 21 from border of private land southeast to Wyoming-Colorado state line.	End of Waterway Segment Reviewed	Moderate-heavy riparian; no roads in waterway corridor; nearest access 2-track to creek at upstream end of BLM-administered parcel.	Wild
<i>Total Miles Across BLM Lands</i>	5.05	TOTAL LENGTH OF WATERWAY SEGMENT REVIEWED (miles)	11.15		
	45%	% BLM JURISDICTION OF WATERWAY SEGMENT REVIEWED			

<i>BLM-Administered Public Land Parcel Number</i>	<i>Length of Waterway Across BLM Land Parcel, in Miles</i>	<i>Name of Waterway, or Waterway Review Segment, and Location of BLM-Administered Public Land Parcel</i>	<i>Distance to Next BLM Land Parcel, in Miles)</i>	<i>Notes/Description/Outstandingly Remarkable Values of BLM-Administered Public Land Parcel</i>	<i>Tentative Classification of Waterway Across BLM-Administered Public Land Parcel</i>
		SWEETWATER RIVER		Outstandingly remarkable values of BLM-administered lands in the waterway review segment include scenic, historic, and recreational. The river played a major role in the Oregon, Mormon Pioneer, California, and Pony Express National Historic Trails. It was crossed 9 times by the trails. The rugged Sweetwater Canyon is only accessible by foot. Campsites along the river are very popular recreation areas.	
1	0.6	R. 102 W., T. 30 N., Section 19, from Bridger Forest border south to beginning of Sweetwater Canyon; Section 19.	0	Heavy riparian; one road leading to Guard Station Campground and network of roads in the campground. Recreational usage.	Recreational
2	3.0	R. 102 W., T. 30 N., Section 19 from beginning of Sweetwater Canyon to the Sweetwater Campground.	0	No access to Canyon other than foot; three 2-tracks to rim of Canyon from west; road access to Sweetwater Campground at southern end of BLM-administered parcel.	Wild
3	2.8	R. 102 W., T. 29 N., Section 5, from Sweetwater Campground southeast to border of state lands, Section 16.	3.0	Heavy riparian; road access into BLM-administered parcel and road parallels 0.1 mile of the river within this parcel.	Recreational
4	0.6	R. 102 W., T. 29 N., Section 27, from border of private land SE, to border of state lands.	0.5	Heavy riparian; nearest access 2-track 1/2 mile south of BLM-administered parcel; no roads in corridor.	Wild
5	0.5	R. 102 W., T. 29 N., Section 34, from border of state land south to border of private land.	0.25	Heavy riparian; 2-track parallels west bank; one 2-track access from east; two 2-tracks access from west.	Scenic
6	1.0	R. 102 W., T. 28 N., Section 4, from border of private land south to border of private land.	0.2	Heavy riparian; no roads in corridor; nearest access is 2-track 1/4 mile above north end of BLM-administered parcel.	Wild
7	1.2	R. 102 W., T. 28 N., Section 10, from border of private land southeast to border of private land Section 11.	3.2	Heavy riparian; no roads in corridor; nearest access is parallel road 3/4 mile east of river.	Wild
8	0.6	R. 101 W., T. 28 N., Section 19, from border of private land southeast to border of private land.	8.5	Heavy riparian; two 2-tracks in corridor; adjacent private lands within corridor.	Scenic
9	2.5	R. 100 W., T. 28 N., Section 29, from border of state land northeast to border of private land Section 27.	0.3	Moderate-heavy riparian; two 2-tracks in corridor each side of river.	Scenic

10	0.3	R. 100 W., T. 28 N., Section 29, from border of state land northeast to border of private land, Section 26.	End of Waterway Segment Reviewed	Heavy riparian; diversion and irrigation ditch along north bank of river; two 2-tracks in corridor; adjacent private lands within corridor.	Recreational
<i>Total Miles Across BLM Lands</i>	13.1	TOTAL LENGTH OF WATERWAY SEGMENT REVIEWED (miles)	29.05		
	45%	% BLM JURISDICTION OF WATERWAY SEGMENT REVIEWED			

<i>BLM-Administered Public Land Parcel Number</i>	<i>Length of Waterway Across BLM Land Parcel, in Miles</i>	<i>Name of Waterway, or Waterway Review Segment, and Location of BLM-Administered Public Land Parcel</i>	<i>Distance to Next BLM Land Parcel, in Miles)</i>	<i>Notes/Description/Outstandingly Remarkable Values of BLM-Administered Public Land Parcel</i>	<i>Tentative Classification of Waterway Across BLM-Administered Public Land Parcel</i>
		BIG SANDY RIVER		Outstandingly remarkable values of BLM-administered public lands in the waterway review segment include historic. The river played a major role in the Oregon, Mormon Pioneer, California, and Pony Express National Historic Trails as a major campsite. Jedediah Smith's party, which discovered South Pass traveling east to west, crossed the upper reaches of the river.	
1	1.5	R. 104 W., T. 30 N., Section 5, from Bridger Forest border south to border of state land, Section 8.	2.0	Heavy riparian; one faint 2-track to river at north end of BLM-administered parcel.	Wild
		There are a total of 36 BLM-administered land parcels along the 74.6-mile review segment of the Big Sandy River. The 36 BLM-administered parcels represent a total of 16.15 miles of the review segment. Only the one parcel, involving 1.5 miles of the waterway, was determined to meet the WSR eligibility criteria.			
<i>Total Miles Across BLM Lands</i>	16.15	TOTAL LENGTH OF WATERWAY SEGMENT REVIEWED (miles)	74.6		
	22%	% BLM JURISDICTION OF WATERWAY SEGMENT REVIEWED			

<i>BLM-Administered Public Land Parcel Number</i>	<i>Length of Waterway Across BLM Land Parcel, in Miles</i>	<i>Name of Waterway, or Waterway Review Segment, and Location of BLM-Administered Public Land Parcel</i>	<i>Distance to Next BLM Land Parcel, in Miles</i>	<i>Notes/Description/Outstandingly Remarkable Values of BLM-Administered Public Land Parcel</i>	<i>Tentative Classification of Waterway Across BLM-Administered Public Land Parcel</i>
		GREEN RIVER		Outstandingly remarkable values of BLM-administered lands in the waterway review segment include wildlife, historic, and recreational. The river played a major role in the Oregon, Mormon Pioneer, California, and Pony Express National Historic Trails as it was one of the most dangerous crossings along the trails. Wildlife populations along the Green River are extensive and varied. The river is popular for floating, fishing, camping, and retracing historic expeditions.	
1	0.25	R. 112 W., T. 28 N., Section 24, from border of private land southeast and west (loop) to border of private land.	1.2	Heavy riparian; cottonwood bottom; 2-track access on west bank of river.	Scenic
2	0.4	R. 112 W., T. 28 N., Section 26, from border of private land southwest to border of private land.	6.0	Heavy riparian; cottonwood bottom; 2 old channels and sandbars; 2-track parallels east side; one 2-track to bottom; adjacent state lands within corridor.	Recreational
3	0.4	R. 112 W., T. 27 N., Section 20, from border of private land southwest to border of private land, Section 29.	0.25	Moderate riparian; U.S. 179 within corridor west of BLM-administered parcel; one parallel 2-track between highway and river.	Recreational
4	0.25	R. 112 W., T. 27 N., Section 31, from border of private land south to border of private land.	1.2	Moderate riparian; two 2-tracks, one on each side of river through BLM-administered parcel.	Recreational
5	0.3	R. 112 W., T. 27 N., Section 31, from border of private land south to border of private land.	6.0	Moderate riparian; U.S. 189 within corridor; adjacent private lands within corridor; bridge crosses river; BLM-administered parcel approximately 1/2 mile north of LaBarge.	Recreational
6	0.25	R. 112 W., T. 26 N., Section 33, from border of private land southwest to border of private and Bureau of Reclamation land forks.	56.0	Moderate-heavy riparian; river splits around island; adjacent private lands within corridor; roads and 2-tracks parallel both banks.	Recreational
7	0.1	R. 107 W., T. 18 N., Section 6, from border of private land southeast to border of private land.	2.0	Moderate riparian; adjacent private lands within corridor; I-80 crosses river approximately 100 yards below BLM-administered parcel; 2-track access to river south side.	Recreational

8	0.5	R. 107 W., T. 18 N., Section 8, from border of private land east to border of private land.	0.9	Low-moderate riparian; adjacent private lands, Union Pacific railroad, and Rio Vista subdivision within corridor.	Recreational
9	0.4	R. 107 W., T. 12 N., Section 16, from border of private land southeast to border of private land.	End of Waterway Segment Reviewed	Low riparian; I-80 within corridor; pipeline or powerline crosses river; 2-track to river both sides.	Recreational
<i>Total Miles Across BLM Lands</i>	2.85	TOTAL LENGTH OF WATERWAY SEGMENT REVIEWED (miles)	71.0		
	4%	% BLM JURISDICTION OF WATERWAY SEGMENT REVIEWED			

APPENDIX 4-4

WILD AND SCENIC RIVERS SUITABILITY REVIEW OF BLM-ADMINISTERED PUBLIC LANDS ALONG THE RED CREEK UNIT, CURRANT CREEK UNIT, PACIFIC CREEK, NORTH FORK OF BEAR CREEK, CANYON CREEK, THE SWEETWATER RIVER, THE BIG SANDY RIVER, AND THE GREEN RIVER IN THE GREEN RIVER RESOURCE MANAGEMENT PLAN PLANNING AREA

(September 1992)

PUBLIC INVOLVEMENT DURING THE WILD AND SCENIC RIVERS SUITABILITY REVIEW

After publication of the Draft EIS for the Green River RMP, 38 letters were received commenting on the Wild and Scenic Rivers review. Three letters challenged the proposed interim management of prohibiting or restricting mineral development on BLM-administered public lands that meet the wild and scenic rivers suitability factors; but, in principle, did not oppose either the eligibility or suitability determinations on the BLM-administered lands along the waterway segments reviewed. Thirty-four letters supported the suitability determinations for the BLM-administered lands along the Sweetwater River and encouraged the BLM to include all "eligible" BLM-administered lands as suitable. One letter from Wyoming Governor Mike Sullivan praised the review process for conducting the eligibility and suitability reviews concurrently.

At public meetings, open houses, and briefings held since publication of the Draft EIS for the Green River RMP, there has been neither significant support nor opposition to the eligibility and suitability determinations made during the Wild and Scenic Rivers review.

Table A4-4-1 summarizes the results of the wild and scenic rivers suitability review of BLM-administered public lands that meet the wild and scenic rivers eligibility criteria along waterways in the Green River Resource Area.

RESULTS OF THE WILD AND SCENIC RIVERS SUITABILITY REVIEW OF BLM-ADMINISTERED PUBLIC LANDS ALONG WATERWAYS IN THE GREEN RIVER RESOURCE MANAGEMENT PLAN PLANNING AREA

Red Creek (includes Little Red Creek, June Creek, and Beef Steer Creek)

It was determined that the 12 BLM-administered public land parcels along the Red Creek Unit review segments (including Little

Red Creek, June Creek, and Beef Steer Creek) do not meet the wild and scenic river suitability factors and will be given no further consideration for inclusion in the wild and scenic river system. The non-suitable determination is based on (1) The potential conflicts with management and activities conducted on the adjacent (and up or downstream) state and private lands that BLM has no jurisdiction or control over; (2) The inability of the BLM to manage the BLM-administered public lands involved in the context of a Wild and Scenic River because of the interspersed parcels of private and state land; and (3) the BLM-administered public lands do not constitute a worthy addition to the National Wild and Scenic River System. The land and resource values on the BLM-administered lands involved can and will continue to be appropriately managed under all other applicable BLM mandates and regulations for multiple use, sustained yield, and environmental integrity, and should suffer no adverse effects for lack of a wild and scenic river designation.

Currant Creek (includes Dripping Springs, East, Middle, and West Forks)

It was determined that the 14 BLM-administered public land parcels along the Currant Creek Unit review segments (including Dripping Springs, East, Middle, and West Forks) do not meet the wild and scenic river suitability factors and will be given no further consideration for inclusion in the wild and scenic river system. The non-suitable determination is based on (1) The potential conflicts with management and activities conducted on the adjacent (and up or downstream) state and private lands that BLM has no jurisdiction or control over; and (2) The inability of the BLM to manage the BLM-administered public lands involved in the context of a Wild and Scenic River because of the interspersed parcels of private and state land. The land and resource values on the BLM-administered lands involved can and will continue to be appropriately managed under all other applicable BLM mandates and regulations for multiple use, sustained yield, and environmental integrity, and should suffer no adverse effects for lack of a wild and scenic river designation.

Pacific Creek

It was determined that the 16 BLM-administered public land parcels along the Pacific Creek review segment do not meet the wild and scenic river suitability factors and will be given no further consideration for inclusion in the wild and scenic river system. The non-suitable determination is based on (1) The potential conflicts with management and activities conducted on the adjacent (and up or

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downstream) state and private lands that BLM has no jurisdiction or control over; and (2) The inability of the BLM to manage the BLM-administered public lands involved in the context of a Wild and Scenic River because of the interspersed parcels of private and state land. The land and resource values on the BLM-administered lands involved can and will continue to be appropriately managed under all other applicable BLM mandates and regulations for multiple use, sustained yield, and environmental integrity, and should suffer no adverse effects for lack of a wild and scenic river designation.

North Fork of Bear Creek

It was determined that the BLM-administered public land parcel along the North Fork of Bear Creek review segment does not meet the wild and scenic river suitability factors and will be given no further consideration for inclusion in the wild and scenic river system. The non-suitable determination is based on (1) The BLM-administered lands involved do not constitute a worthy addition to the National Wild and Scenic River System; and (2) the lack of public, state, local, tribal, or Federal interest in designation or nondesignation of any part or all of the creek. The land and resource values on the BLM-administered lands involved can and will continue to be appropriately managed under all other applicable BLM mandates and regulations for multiple use, sustained yield, and environmental integrity, and should suffer no adverse effects for lack of a wild and scenic river designation.

Canyon Creek

It was determined that the 8 BLM-administered public land parcels along the Canyon Creek review segment do not meet the wild and scenic river suitability factors and will be given no further consideration for inclusion in the wild and scenic river system. The non-suitable determination is based on (1) The potential conflicts with management and activities conducted on the adjacent (and up or downstream) state and private lands that BLM has no jurisdiction or control over; (2) Potential use conflicts with Canyon Creek which could occur if it is included in the National Wild and Scenic River System; and (3) The inability of the BLM to manage the BLM-administered public lands involved in the context of a Wild and Scenic River because of the interspersed parcels of private and state land. The land and resource values on the BLM-administered lands involved can and will continue to be appropriately managed under all other applicable BLM mandates and regulations for multiple use, sustained yield, and environmental integrity, and should suffer no adverse effects for lack of a wild and scenic river designation.

Sweetwater River

It was determined that 7 of the BLM-administered public land parcels along the upstream portion of the Sweetwater River review segment meet the wild and scenic river suitability factors and should be managed to maintain or enhance their outstandingly remarkable values for any possible future consideration for inclusion in the wild and scenic river system. The suitable determination is based on the uniqueness of the diverse BLM-administered land resources and their regional and national significance, making them worthy of any future consideration for addition to the wild and scenic river system.

The outstanding scenic, historic, and recreational values associated with the BLM-administered lands involved make this a uniquely diverse waterway segment in the region. Within this portion of the review segment, the Sweetwater Canyon and recreational opportunities at the Sweetwater campgrounds are of particularly high value.

Making up over 70% of the lands along this portion of the review segment, the BLM-administered public lands are manageable by

BLM as a wild and scenic river under the provisions of the Wild and Scenic River Act. Other factors that complement and enhance this manageability include: (1) The existing public access to existing recreational areas in the review segment; and (2) There are no anticipated conflicts with the management objectives on the intermingled state and private lands within the review segment and the intermingled private lands are not large or extensive parcels as with ownership patterns along other waterways in the RMP planning area.

It was determined that the remaining 3 BLM-administered public land parcels within the downstream portion of the Sweetwater River review segment do not meet the wild and scenic river suitability factors and will be given no further consideration for inclusion in the wild and scenic river system. The non-suitable determination for these three parcels is based on (1) The potential conflicts with management and activities conducted on the adjacent (and up or downstream) state and private lands that BLM has no jurisdiction or control over. The land and resource values on the BLM-administered lands involved can and will continue to be appropriately managed under all other applicable BLM mandates and regulations for multiple use, sustained yield, and environmental integrity, and should suffer no adverse effects for lack of a wild and scenic river designation.

Big Sandy River

It was determined that the one BLM-administered public land parcel along the Big Sandy River review segment does not meet the wild and scenic river suitability factors and will be given no further consideration for inclusion in the wild and scenic river system. The non-suitable determination is based on the inability of the BLM to manage the small amount of BLM-administered public lands involved in the context of a Wild and Scenic River. The land and resource values on the BLM-administered lands involved can and will continue to be appropriately managed under all other applicable BLM mandates and regulations for multiple use, sustained yield, and environmental integrity, and should suffer no adverse effects for lack of a wild and scenic river designation.

Green River

It was determined that the 9 BLM-administered public land parcels along the Green River review segment do not meet the wild and scenic river suitability factors and will be given no further consideration for inclusion in the wild and scenic river system. The non-suitable determination is based on (1) The potential conflicts with management and activities conducted on the adjacent (and up or downstream) state and private lands that BLM has no jurisdiction or control over; and (2) The inability of the BLM to manage the BLM-administered public lands involved in the context of a Wild and Scenic River because of the interspersed parcels of private and state land. The land and resource values on the BLM-administered lands involved can and will continue to be appropriately managed under all other applicable BLM mandates and regulations for multiple use, sustained yield, and environmental integrity, and should suffer no adverse effects for lack of a wild and scenic river designation.

The BLM administers only a minute amount of land (4%) along the 71 miles of the Green River flowing through the Green River Resource Area. However, other Department of the Interior agencies (Bureau of Reclamation and U.S. Fish and Wildlife Service) manage a large part of the remaining lands along the river. In addition, there was quite a bit of public interest for designation of the Green River as a Recreational River. The BLM would participate in any future joint study efforts or wild and scenic river reviews along the Green River.

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TABLE A4-4-1

SUMMARY OF WILD AND SCENIC RIVERS SUITABILITY REVIEW OF BLM-ADMINISTERED PUBLIC LANDS THAT MEET THE WSR ELIGIBILITY CRITERIA ALONG WATERWAYS IN THE GREEN RIVER RESOURCE AREA (September 1992)

Waterway Reviewed	Determination	Justification
Red Creek Unit (all BLM land parcels along Red Creek and all other tributaries in the unit)	BLM Lands Not Suitable	Not a worthy addition to WSR System; Land ownership conflicts; Manageability
Currant Creek Unit (all BLM land parcels along Currant Creek and all other tributaries in the unit)	BLM Lands Not Suitable	Land ownership conflicts; Manageability
Pacific Creek	BLM Lands Not Suitable	Land ownership conflicts; Manageability
North Fork of Bear Creek	BLM Lands Not Suitable	Not a worthy addition to WSR System; Lack of interest for designation
Canyon Creek	BLM Lands Not Suitable	Potential use conflicts; Manageability
Green River ¹	BLM Lands Not Suitable	Manageability; Land ownership conflicts
Sweetwater River (upstream portion of review segment)	7 BLM Land Parcels Suitable	Scenic, historic, and recreational values, unique land and resource diversity
Sweetwater River (downstream portion of review segment)	3 BLM Land Parcels Not Suitable	Land ownership conflicts
Big Sandy River	BLM Lands Not Suitable	Manageability

¹ Green River - The portion of the Green River administered by the BLM did not meet the suitability factors based upon the inability of the BLM to manage the BLM-administered lands in the context of a wild and scenic river because of the large and numerous separations of the few BLM-administered parcels by interspersed private and state lands and by other federal lands administered by the BOR and USFWS. However, the BLM would participate in any future joint WSR reviews or studies that may be conducted on the Green River.

APPENDIX 5-1

STANDARD PRACTICES, BEST MANAGEMENT PRACTICES, AND GUIDELINES FOR SURFACE DISTURBING ACTIVITIES

This appendix describes the practices utilized to mitigate adverse effects caused by surface disturbing activities.

Standard practices applied to surface disturbing activities are statements of guidelines and techniques for establishing statewide (or national) consistency in avoiding and mitigating environmental impacts and resource conflicts. These practices have been developed through field experience, through planning analyses, and from legal or regulatory directives. They emphasize the Bureau's responsibility to ensure that good construction practices are used on public lands, and they apply to all surface disturbing activities.

Best management practices (BMPs) are developed by State agencies in cooperation with Federal agencies to control nonpoint sources of pollution. Section 303(e) of the Clean Water Act and 40 CFR 130.5 require states to maintain a "Water Quality Management Planning Continuing Planning Process." The process must establish procedures for adoption and appeals which, among other items, address BMPs. BMPs are advisory rather than regulatory. BMPs are a key element in a State Nonpoint Source Management Plan with which the Federal Government must comply under Executive Orders 12088 and 12372, and Clean Water Act Sections 319(k) and 301(k). The standard practices in this document are designed to meet the intent of the State's BMPs, and may therefore be subject to revision when the State BMPs are finalized.

The State of Wyoming has released draft lists of BMPs which address silviculture and hydrology, and has issued a policy statement in lieu of BMPs for minerals and oil and gas. The State has not yet released a draft of BMPs for grazing. The State has adopted the policy that the rules and regulations promulgated for oil and gas exploration, mineral extraction, and underground storage tanks shall be considered as the BMPs for these activities.

The Wyoming BLM policy on reclamation assumes that an area can and shall be ultimately reclaimed, and requires that every surface disturbance on public lands receive attention for short-term stabilization and long-term reclamation. Mitigation measures reduce to the extent possible the amount of reclamation that ultimately must take place. The BLM must apply reasonable mitigation and provide guidance for all authorizations. The permit or authorization is the means provided for ensuring that mitigation measures are implemented. Compliance inspections during operations ensure that COAs and/or stipulations are being followed. Compliance inspections upon completion of work ensure that both surface and subsurface reclamation procedures have been properly followed.

Standard practices may develop through the NEPA process into stipulations prior to lease or grant issuance, or they may serve as a basis for COAs. If these practices (or newly developed techniques) are already incorporated into plans for development submitted by a permittee, such plans may be approved without the addition of any COAs. The Bureau would consider any project proposal, however the burden is on the applicant to describe the design and construction techniques. If a project's design, scheduling, and construction techniques can mitigate environmental concerns, construction may be allowed without any COAs.

STANDARD PRACTICES

The following are standard practices applied to surface disturbing activities. These practices are applied, when necessary, to reduce environmental impacts. Large projects may require construction use plans and/or erosion control, revegetation, and restoration plans (Appendix 5-3) which would incorporate these practices. The standard practices in this document are designed to meet the intent of the State's BMPs, and may therefore be subject to revision when the State BMPs are finalized.

Although the headings below address specific resources or types of development, these practices apply to all surface disturbing activities. These practices have been developed through experience working with surface disturbances in the Rock Springs District. Therefore, these are believed to be the best practices available to address a variety of surface disturbance problems. These are not stipulations, but represent concerns that must be addressed in any acceptable proposed surface disturbing activity. Operators are encouraged to review these practices, incorporate them where appropriate, and where possible develop better methods for achieving the same goals.

Air Quality

As projects are proposed that include possible major sources of air pollutant emissions, air quality protection related stipulations are added to BLM permits and rights-of-way grants. In addition, the BLM coordinates with the Wyoming Department of Environmental Quality/Air Quality Division during the process of analysis. This coordination results in the technical review of applications for permits and (or) identification of additional stipulations to be applied to these permits.

The release of hazardous air contaminants, particularly the emissions from sour natural gas sweetening plants (a process used to remove H₂S from natural gas resulting in the emission of sulfur dioxide), is a public concern. BLM requires industry to prepare analyses of risks involved with the development of sour gas pipelines and treatment facilities. These analyses are designed to project impacts both to the public and to resource values. To aid in achieving air quality goals BLM would consult with the State of Wyoming, the U.S. Forest Service, industry, and the public to ensure that the most technically sound, environmentally balanced, and economically feasible decisions are made.

Additional Stipulations: The emission of fugitive dust shall be limited by all persons handling, transporting, or storing any material to prevent unnecessary amounts of particulate matter from becoming airborne to the extent that ambient air standards described in these regulations are exceeded. Control measures described as follows or any equivalent method shall be considered appropriate for such control:

- (i) Use, where possible, of water or chemicals for control of dust in the demolition of existing buildings, or structures, construction operations, the grading of roads or the clearing of land;

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(ii) Application of asphalt, oil, water, or suitable chemicals on dirt roads, materials stockpiles, and other surfaces which can give rise to airborne dusts;

(iii) Installation and use of hood, fans and fabric filters to enclose and vent the handling of dusty materials; adequate containment methods shall be employed during sandblasting or other similar operations;

(iv) Covering, at all times when in motion, open bodied trucks, transporting materials likely to give rise to airborne dust;

(v) Conduct of agricultural practices such as tilling of land, application of fertilizers, etc. in such a manner as to prevent dust from becoming airborne;

(vi) The paving of roadways and their maintenance in a clear condition;

(vii) The prompt removal of earth or other material from paved streets onto which earth or other material has been transported by trucking or earth moving equipment, erosion by water, or other means (Wyoming Air Quality Standards and Regulations, 1989, Section 14, Control of Particulate Emissions).

Candidate Plants

Mitigation options to avoid or reduce impacts to rare plants may be limited due to specific habitat requirements, or lack of necessary biological information to make such an assessment. Most of the common techniques such as off-site compensation or habitat restoration have proven largely unsuccessful, although seedbanking is commonly performed in order to attempt off-site propagation. Mitigation plans for areas where impacts to these species cannot be avoided are designed to provide special management actions that minimize the overall impact to the species. However, due to the difficulties of providing successful mitigation options, impacts to candidate plants are considered less than significant only if no net loss of population size or habitat quality results. "No net loss" is intended to mean that BLM must "ensure that [actions authorized, funded, or carried out by BLM]...affecting the habitat of candidate species are carried out in a manner that is consistent with the objectives for managing those species. BLM shall not carry out any actions that would cause any irreversible or irretrievable commitment of resources or reduce the future management options for the species involved" (BLM Manual 6840).

Fire

Guidelines for buffer areas (an area in which fire cannot spread) have been prepared to protect developed facilities and areas of highly erodible soils from the impacts of fire.

If the development is located in a grass community, a 15-foot buffer is recommended.

If the development is located in a sagebrush community, a 25-foot buffer is recommended.

In a juniper/tall brush community (serviceberry, aspen, cottonwood, willow), a 50-foot buffer is recommended.

In a conifer community (lodgepole, spruce fir), a buffer area of 25 feet plus the height of the surrounding trees is recommended.

The emissions which may be created directly by BLM activities are mitigated by applying best management practices. For example, prescribed fires are conducted to reduce emissions by burning only

at appropriate fuel moistures and wind speeds (among other factors) which reduce as much as possible the smoke created. All BLM activities that may potentially cause undesirable air quality impacts are also coordinated with the Wyoming Department of Environmental Quality, Air Quality Division (WDEQ,ADQ). Permits to conduct these activities are secured (where necessary) before the activity begins, to insure compliance with all Federal, state, and local air quality laws.

Pipelines and Communication Lines

On ditches exceeding 36 inches in width, 6 to 12 inches of surface soil should be salvaged where possible on the entire right-of-way. When pipelines and communication lines are buried, there should be at least 30 inches of backfill on top of the pipe. Backfill should not extend above the original ground level after the fill has settled. Guides for construction and water bar placement are found in "Surface Operating Standards for Oil and Gas Exploration and Development" (USDI 1978). Bladed surface materials would be re-spread upon the cleared route once construction is completed. Disturbed areas that have been reclaimed may need to be fenced when the route is near livestock watering areas.

Existing crowned and ditched roads would be used for access where possible to minimize surface disturbances. Where possible, clearing of pipeline and communication line rights-of-way would be accomplished with the least degree of disturbance to topsoil. Where topsoil removal is necessary, it would be stockpiled (wind-rowed) and re-spread over the disturbance after construction and backfilling are completed. Vegetation removed from the right-of-way would also be required to be re-spread to provide protection, nutrient recycling, and a seed source.

To promote soil stability, the compaction of backfill over the trench would be required (not to extend above the original ground level after the fill has settled). Water bars, mulching, and terracing would be required, as needed, to minimize erosion. Instream protection structures (e.g., drop structures) may be required in drainages crossed by a pipeline to prevent erosion. The fencing of linear disturbances near livestock watering areas may be required.

Reclamation

Current BLM policy recognizes that there may be more than one correct way to achieve successful reclamation, and a variety of methods may be appropriate to the varying circumstances. BLM should continue to allow applicants to use their own expertise in recommending and implementing construction and reclamation projects. These allowances still hold the applicant responsible for final reclamation standards of performance.

BLM reclamation goals emphasize: 1) protection of existing native vegetation; 2) minimal disturbance of existing environment; 3) soil stabilization through establishment of ground cover; and 4) establishment of native vegetation consistent with land use planning.

All reclamation is expected to be accomplished as soon as possible after the disturbance occurs with efforts continuing until a satisfactory revegetation cover is established and the site is stabilized (3 to 5 years).

Only areas needed for construction would be allowed to be disturbed. Reclamation (by the lessee or grant holder) would be initiated as soon as possible after a disturbance occurs.

On all areas to be reclaimed, seed mixtures would be required to be site-specific, composed of native species, and would be required to include species promoting soil stability. A pre-disturbance species

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composition list must be developed for **each** site if the project encompasses an area where there are several different plant communities present. Livestock palatability and wildlife habitat needs would be given consideration in seed mix formulation. BLM guidance for native seed use is BLM Manual 1745 (Introduction, Transplant, Augmentation, and Reestablishment of Fish, Wildlife, and Plants), and Executive Order No. 11987 (Exotic Organisms).

Interseeding, secondary seeding, or staggered seeding may be required to accomplish revegetation objectives. During rehabilitation of areas in important wildlife habitat, provision would be made for the establishment of native browse and forb species, if determined to be beneficial for the habitat affected. Follow-up seeding or corrective erosion control measures may be required on areas of surface disturbance which experience reclamation failure.

Trees, shrubs, and ground cover (not to be cleared from rights-of-way) would require protection from construction damage. Backfilling to preconstruction condition (in a similar sequence and density) would be required. The restoration of normal surface drainage would also be required.

Any mulch used would be free from mold, fungi, or noxious weed seeds. Mulch may include native hay, small grain straw, wood fiber, live mulch, cotton, jute, synthetic netting, and rock. Straw mulch should contain fibers long enough to facilitate crimping and provide the greatest cover.

The grantee or lessee would be responsible for the control of all noxious weed infestations on surface disturbances. Aerial application of chemicals would be prohibited within ¼ mile of special status plant locations, and hand application would be prohibited within 500 feet. Control measures would adhere to those allowed in the Rock Springs District Noxious Weed Control EA (USDI 1982a) or the Regional Northwest Area Noxious Weed Control Program EIS (USDI 1987). Herbicide application would be monitored by the BLM authorized officer.

Roads

Roads would be constructed as described in BLM Manual 9113. New main artery roads would be designed to reduce sediment, salt, and phosphate loading to the Green River. Where necessary, running surfaces of the roads would be graveled if the base does not already contain sufficient aggregate.

Existing roads would be upgraded where necessary.

Recognized roads, as shown on the Rock Springs District Office Transportation Plan, would be used when the alignment is acceptable for the proposed use. Generally, roads would be required to follow natural contours; provide visual screening by constructing curves etc.; and be reclaimed to BLM standards.

To control or reduce sediment from roads, guidance involving proper road placement and buffer strips to stream channels, graveling, proper drainage, seasonal closure, and in some cases, redesign or closure of old roads would be developed when necessary. Construction may also be prohibited during periods when soil material is saturated, frozen, or when watershed damage is likely to occur.

On newly constructed roads and permanent roads, the placement of topsoil, seeding, and stabilization would be required on all cut and fill slopes unless conditions prohibit this (e.g., rock). No unnecessary side-casting of material (e.g., maintenance) on steep slopes would be allowed. Snow removal plans may be required so that snow removal does not adversely affect reclamation efforts or resources adjacent to the road.

Reclamation of abandoned roads would include requirements for reshaping, recontouring, resurfacing with topsoil, installation of water bars, and seeding on the contour. The removal of structures such as bridges, culverts, cattleguards, and signs usually would be required. Stripped vegetation would be spread over the disturbance for nutrient recycling, where practical. Fertilization or fencing of these disturbances would not normally be required. Additional erosion control measures (e.g., fiber matting) and road barriers to discourage travel may be required.

Main artery roads, regardless of primary user, would be crowned, ditched, drained, and surfaced with gravel to reduce sediment, salt, and phosphate loading to the Green River.

Road closures may be implemented during crucial periods (e.g., wildlife winter periods, spring runoff, and calving and fawning seasons).

Soils

If clay soils are used as pit lining, they should have a liquid limit greater than 30 and a Plasticity Index of at least 20. Assuming that bentonite in drilling fluids would sufficiently seal a pit is not good procedure because the bentonite would not be compacted, and uniform coverage and density would not be achieved. Bentonite is also subject to cracking if it is not designed properly.

Uncontrolled or designed settlement of clay particles does not provide a consistently adequate seal on a pit liner. Compaction or permeability testing should be used to determine pit characteristics.

Current objectives focus on soil conservation planning for surface disturbance actions. Soil conservation should be addressed during the initial phase of any surface disturbing action, thereby maintaining soil productivity and stability levels through the use of existing guidelines and techniques. Some areas may require more thorough soil management practices than others, however, this is dependent on the type and duration of the action and the effect on site-specific soil characteristics.

Some examples of standards applied throughout the Resource Area based on soil management criteria are:

1. Closures due to saturated soil conditions when soil resource damage would occur due to wheel rutting or compaction on wet soils.
2. Salvage and subsequent replacement of topsoil whenever possible on surface disturbing activities.
3. Limiting disturbance on slopes greater than 25 percent.

Emphasis should continue to be placed on the reduction of soil erosion and sediment into the Green River Basin watershed. Of particular importance would be those areas with saline soils such as the Little Colorado Desert or those areas with highly erodible geology and soils such as Red Creek drainage.

Management of the soil resource would continue to be based upon the following: 1) Evaluation and interpretation of soils in relation to project design and development; 2) Identification and inventory of soils for baseline data; and 3) Identification and implementation of methods to reduce accelerated erosion.

Evaluation and interpretation involves identification of soil properties which would influence their use and recommendations for development while minimizing soil loss. Projects would be examined on a site-specific basis, evaluating the potential for soil loss and the compatibility of soil properties with project design. Stipulations and mitigating measures are provided on a case-by-case basis to

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ensure soil conservation and practical management. Projects requiring soil interpretations include: construction of linear right-of-way facilities (i.e., pipelines, roads, railroads, and power transmission lines); construction of water impoundments; rangeland manipulation through fire or mechanical treatments; construction of plant site facilities, pump stations, well pads and associated disturbances; and reclamation projects.

The current Order 3 soil survey is designed to update general soils information and provide data to those areas lacking soil inventories. A baseline soil inventory is ongoing to provide information on productivity, soil engineering properties, and soil erosion potentials. Proposed "I" category allotments and areas impacted by oil and gas projects receive priority in the soil survey process.

Identification of critical erosion condition areas would continue during soil surveys, monitoring, site specific project analysis, and activity plan development for the purpose of avoidance and special management.

Before a surface disturbing activity is authorized, topsoil depth would be determined. The amount of topsoil to be removed, along with topsoil placement areas, would be specified in the authorization. The uniform distribution of topsoil over the area to be reclaimed would be required, unless conditions warrant a varying depth. On large surface-disturbing projects (e.g., gas processing plants) topsoil would be stockpiled and seeded to reduce erosion. Where feasible, topsoil stockpiles would be designed to maximize surface area to reduce impacts to soil microorganisms. Stockpiles remaining less than two years are best for soil micro-organism survival and native seed viability. It is recommended that stockpiles be no more than 3 to 4 feet high. Areas used for spoil storage would be stripped of topsoil before spoil placement. The replacement of topsoil after spoil removal would be required.

Temporary disturbances which do not require major excavation (e.g., small pipelines and communication lines) may be stripped of vegetation to ground level using mechanical treatment, leaving topsoil intact and root mass relatively undisturbed.

In support of the Bureau's mission, soil management is committed to sustaining the productivity of soils.

Watershed

Stream sediment, phosphate, and salinity load would be reduced where possible.

In areas where ground water exists 20 feet or less from the surface (Wyoming Oil & Gas Commission), produced water from oil and gas operations would be disposed of in an approved closed storage system or by other acceptable means complying with Onshore Order #7.

Where depth to groundwater is less than 100 feet and soil permeability is more than 0.1 foot/day, plants, mills, or associated tailings ponds and sewage lagoons would not be allowed.

To protect watershed resources during wet periods, vehicle travel, particularly large or heavy truck traffic, would not be allowed unless travel occurs on roads that are graveled for all-season use.

Crossings of ephemeral, intermittent, and perennial streams associated with road and utility line construction would generally be restricted until after spring runoff and normal flows are established.

Vegetative buffer strips of at least 100 feet should be left intact next to a perennial stream during controlled burning.

The inner gorge of intermittent and ephemeral drainages should be burned in such a manner as to leave unburned patches of vegetation. At no time should the burn consume more than 50 percent of the cover within the inner gorge area. The use of herbicides for vegetative manipulation should proceed with great care when done in the proximity of willows, cottonwoods, or aspens so as not to damage such stands unless the prescription actually calls for such removal.

Herbicide loading sites would be located at least 500 feet from live water, floodplains, riparian areas, and all special status plant locations and would be utilized in accordance with the guidelines in Appendix 9-2. Treatments would adhere to all label directions.

Floatable stream stretches should be managed so that there is no more than a 10 percent increase in fecal coliform count.

Vegetative buffer strips should be maintained between developed recreational facilities and live water.

Prior to installing toilet facilities associated with recreation, ground water protection would be provided for.

Installation of instream structures for fisheries, watershed, or irrigation enhancement must be completely engineered if the high flow for the stream exceeds 10 CFS (cubic feet/second).

Floodplains by their very nature are unsafe locations for permanent structures. With an inundation of flood waters, soils disturbed by construction could experience a rate of erosion greater than undisturbed sites. There is an additional concern over the potential for flood waters to aid in the disbursement of hazardous materials that may be stored within such structures. Therefore, floodplains should have no permanent structures constructed within their boundaries unless it can be demonstrated on a case-by-case basis that there is no physically practical alternative. In cases where floodplain construction is approved, additional constraints could be applied.

Section 2.a.(2) of Executive Order 11988 states in summary that "...if the HEAD OF THE AGENCY finds that the only practicable alternative consistent with the law and with the policy set forth in the Order requires siting in a floodplain, the agency shall, prior to taking action, 1) design or modify its action in order to minimize potential harm...and 2) prepare and circulate a notice containing an explanation of why the action proposed is to be located in the floodplain.

Also, Section 3 of Executive Order 11988, in reference to Federal real property and facilities states that agencies shall, if facilities are to be located in a floodplain (i.e., no practicable alternative), flood protection measures are to be applied to new construction or rehabilitate existing structures, elevate structures rather than fill the land, provide flood height potential markerings on facilities to be used by the public, and when the property is proposed for lease, easement, right of way, or disposal, the agency has to attach restriction on uses in the conveyance, etc., or withhold from such conveyance.

Disturbances to the soils, such as roads and well pads, can easily concentrate the flow of water increasing its erosive potential. A 500-foot buffer provides an opportunity for such flows to be disbursed before they reach a stream and often precludes construction in riparian zones. Therefore, there should be no construction within 500 feet of a stream unless it can be demonstrated on a case-by-case basis that there is no physically practical alternative. In cases where construction within the 500-foot zone is approved, additional constraints could be applied.

All surface disturbance, permanent facilities, etc., shall remain a minimum of 500 feet away from the edge of surface waters, riparian areas, wetlands, and 100-year floodplains unless it is determined

APPENDIX 5-1

through site specific analysis and the Area Manager approves in writing, that there is no practicable alternative to the proposed action. If such a circumstance exists, then all practicable measures to mitigate possible harm to these areas must be employed. These mitigating measures would be determined case by case and may include, but are not limited to, diking, lining, screening, mulching, terracing, and diversions.

Well Pads and Facilities

Dumping of produced water on roads would not be allowed unless TDS is less than 400 mg/l (State standard for the Colorado River drainage) and the water does not contain hazardous material. No produced water would be allowed on roads in Sublette County.

Both produced water and reserve pits should be constructed to ensure protection of surface and ground water. The review to determine the need for installation of lining material should be done on a case-by-case basis and consider soil permeability, water quality, and depth to ground water. Oil-based muds used for drilling operations should be environmentally acceptable.

Pits would be fenced as specified in individual authorizations. Any pits with harmful fluids in them shall be maintained in a manner that would prevent migratory bird mortality.

Abandoned sites must be satisfactorily rehabilitated in accordance with a plan approved by the BLM. Soil samples may be analyzed to determine reclamation potential, appropriate reseeding species, and nutrient deficits. Tests may include: pH, mechanical analysis, electrical conductivity, and sodium content. Terraces or elongated water breaks would be constructed after slope reduction. Disturbances should be reclaimed or managed for zero runoff from the location until the area is stabilized. All excavations and pits should be closed by backfilling and contouring to conform to surrounding terrain. On well pads and larger locations, the surface use plan would include objectives for successful reclamation including: soil stabilization, plant community composition, and desired vegetation density and diversity.

On producing locations, operators would be required to reduce slopes to original contours (not to exceed 3:1 slopes). Areas not used for production purposes should be backfilled and blended into the surrounding terrain, reseeded, and erosion control measures installed. Erosion control measures would be required after slope

reduction. Facilities would be required to approach zero runoff from the location to avoid contamination and water quality degradation downstream. Mulching, erosion control measures, and fertilization may be required to achieve acceptable stabilization.

Reserve pits would not be located in areas where groundwater is less than 50 feet from the surface and soil permeability is greater than 10^{-7} cm/hr.

Produced water from oil and gas operations would be disposed of in accordance with the requirements of Onshore Oil and Gas Order #7.

Any produced water pit or drilling fluids pit that shows indications of containing hazardous wastes would be tested for the Toxicity Characteristic Leaching Procedure constituents. If analysis proves positive, the fluids would be disposed of in an approved manner. The cost of the testing and disposal would be borne by the potentially responsible party.

No surface disturbance is recommended on slopes in excess of 25 percent unless erosion controls can be ensured and adequate revegetation is expected. Engineering proposals and revegetation and restoration plans would be required in these areas.

No sour gas lines would be located closer than one mile to a populated area or sensitive receptor. The applicants must use the best available engineering design (e.g., alignment, block valve type and spacing, pipe grade), and best construction techniques (e.g., surveillance, warning signs) as approved by the Authorized Officer to minimize both the probability of rupture and radius of exposure in the event of an accidental pipeline release of sour gas. A variance from the one-mile distance may be granted by the Authorized Officer based on detailed site-specific analysis that would consider meteorology, topography, and special pipeline design and (or) construction measures. This analysis would ensure that populated areas and sensitive receptors would not be exposed to an increased level of risk.

Wilderness

A controlled surface use stipulation would be applied for activities within $\frac{1}{4}$ mile or the visual horizon of the WSA boundary. Actions within or adjacent to the WSAs would be evaluated on a case-by-case basis to determine if appropriate mitigation would be necessary.

APPENDIX 5-2

ENVIRONMENTAL ANALYSIS AND MITIGATION OF OIL AND GAS DEVELOPMENT AND OTHER SURFACE DISTURBING ACTIVITIES

THE TIERED APPROACH

The BLM has developed, and the BLM Wyoming State Director has utilized, a tiered approach to the analysis of oil and gas development. This approach is applicable to all surface disturbing activities, and is as follows:

Tier One: The RMP develops the necessary policy, land use decisions, and environmental analyses to lease/develop the public lands. It is during this phase of analysis that lease stipulations are determined.

Tier Two: A more detailed evaluation of planned activity for a specific area is developed and analyzed (e.g., a field development proposal or a coordinated activity plan). An environmental analysis looks at a reasonable range of alternatives and assesses the cumulative impacts of the development. Conditions of approval (COAs) may be determined at this tier.

Tier Three: A site specific environmental analysis would be made for each Application for Permit to Drill (APD), right-of-way (ROW), sundry notice, etc. which would assess the impacts of the proposed development. COAs may be determined at this tier.

At each tiered phase of evaluation, the appropriate level of necessary and due degradation associated with the proposed development would be assessed. Where unnecessary degradation to other resources is recognized, seasonal restrictions or other protective measures would be developed for use by the decisionmaker. These would be attached to leases as stipulations, or to ROWs, APDs, sundry notices, etc. as COAs.

The tiered approach to evaluating effects of proposed actions that BLM authorizes allows for subsequent refining of planning and management decisions to avoid unnecessary and undue degradation of other resources. This is primarily done through conducting and documenting site specific environmental analyses of proposed developments, which include identifying mitigation requirements for the related impacts.

The BLM not only has the authority, but also the responsibility to manage the public lands and resources in a manner that maintains balance between commodity development and protection of environmental and other land and resource values for future generations. This authority and responsibility are paramount to the BLM's mandate to manage the public lands and resources under the concept of multiple-use, sustained yield, and environmental integrity. Furthermore, the Federal Land Policy and Management Act of 1976 requires the BLM to consider and coordinate with other public entities and plans, such as State and local planning documents, when making resource decisions.

If we did not have the authority to further refine our planning and management decisions at subsequent, incremental stages of proposals and decision-making, we would be required to provide protection of other resource values on the basis of only "potential" effects and only at the point of making the initial decision of whether or not to issue an oil and gas lease. This would only result in large areas being unnecessarily identified as off-limits to oil and gas leasing and other development.

Use restrictions on construction, drilling, and well completion activities for the benefit of big game and other animals are not to be applied for a blanket 5½- to 9-month period. They also are not to be applied as "stipulations" on existing unstipulated oil and gas leases. Rather, the need for the use of restrictions is to be determined through case-by-case review and analysis of APDs and Sundry Notices, at the time such APDs and Sundry Notices are submitted for approval. Restrictions are applied to avoid or mitigate unnecessary and undue impacts, and they should only be used for locations and time periods that are necessary and appropriate. These restrictions are applied only as COAs for APDs and Sundry Notices not as new "stipulations." The intended application of use restrictions in this manner is consistent with the terms and conditions of existing, unstipulated leases, with the provisions of the regulations in 43 CFR 3101.1-2, and with the Director's policy statement on this subject (WO IM No. 92-67).

LEASE STIPULATIONS

Stipulations are conditions, promises, or demands to be part of a lease only when the environmental and planning record demonstrates the necessity for the stipulations. Stipulations place specific limits on lease rights based on potential conflicts between lease development and various other resources. Stipulations, as such are neither "standard" nor "special", but rather a necessary modification of the terms of the lease. In order to accommodate the variety of resources encountered on Federal lands, these stipulations are categorized as to how a stipulation modifies the lease rights, not by the resource(s) to be protected.

The need for a stipulation is based on an analysis of potential impacts to other resources as a result of a specific action and to help achieve a specific management objective established in a land use plan. Potential impacts which would result in unnecessary and undue resource damage if mitigation/protection measures are not used form the basis for stipulations. The methods of mitigation/protection are determined by the land management agency through land use planning and National Environmental Policy Act (NEPA) analysis.

The necessity for individual lease stipulations is documented in the lease-file record and in the appropriately referenced land use plan or other leasing analysis document. The necessary criteria for exceptions, waivers, or modifications would also be documented in the lease-file record through reference to the appropriate plan or other analysis.

In all cases, use of the stipulations requires identification of specific resource values to be protected, and description of the specific geographic area covered.

Stipulations attached to noncompetitive leases require the applicants acceptance and signature. Stipulations cannot be added or deleted from existing leases without the agreement of both the lessee and lessor and must be in compliance with the requirements of the Federal Onshore Oil and Gas Leasing Reform Act of 1987. Restrictions attached to a lease as stipulations or lease notices at the time of lease issuance are part of the lease terms and are accepted as such by the lessee when a lease offer is filed.

LEASE NOTICES

Lease notices are a parallel tool to lease stipulations. Lease notices are attached to leases at the time of lease issuance, and convey information to assist the lessee in submitting acceptable plans of operation, or to assist in the administration of leases. If a situation or condition is known to exist that could affect lease operations, full disclosure should be made at the time of lease issuance through the use of a lease notice. A lease notice does not involve new restrictions or requirements.

PERMIT/GRANT CONDITIONS OF APPROVAL (COAs)

Conditions of approval (COAs) are conditions or requirements under which a site-specific surface disturbing or human presence activity (filed as an APD, sundry notice, ROW, etc.) is approved. The need for any surface use COA must be clearly justified and documented in the applicable site-specific environmental document. Any COA must also have waiver, exception, or modification criteria identified in the site-specific environmental document to allow for changes in environmental conditions which render the mitigation required by the COA no longer appropriate or necessary.

COAs, when applied to oil and gas activities such as APDs, must provide effective mitigation to prevent undue and unnecessary degradation, but can not infringe upon the lessee's existing rights. An activity plan may not constitute the site-specific analysis necessary to show that a particular activity would result in unnecessary and undue degradation. Mere reference to the terms "unnecessary and undue degradation" is not sufficient justification to apply COAs. Further analysis (Tiers Two and Three) providing clear evidence and convincing need for such mitigation must be prepared prior to applying COAs.

WAIVERS, MODIFICATIONS, OR EXCEPTIONS TO STIPULATIONS OR COAs

Land use plans and/or NEPA documents establish the guidelines by which future waivers, modifications, or exceptions to stipulations

or COAs may be granted. Substantial modification or waiver subsequent to lease issuance is subject to public review for at least a 30-day period in accordance with Section 5102.f of the Federal Onshore Oil and Gas Leasing Reform Act of 1987. This standard would also be applied to COAs.

It is important to recognize that the authorized officer has the authority to modify the site location and design of facilities, control the rate of development and timing of activities as well as require other mitigation (i.e., COAs) under Sections 2 and 6 of the standard lease terms (BLM Form 3100-11) and under 43 CFR 3101.1-2. The authorized officer may relocate a proposed oil and gas operation up to 200 meters, or prohibit surface disturbance for up to 60 days (the 60-day/200-meter rule) by using this authority, and attaching a COA to the APD.

The BLM Wyoming State Director, or his representative, utilizing appropriate COAs, can exceed the 60-day/200-meter rule for site-specific actions, such as an APD, where there is site-specific environmental analysis and clear and convincing evidence in the documentation showing undue and unnecessary degradation would result if protective restrictions were not applied. This environmental documentation must address two factors: (1) a combination of alternative mitigation measures which is clearly consistent with lease rights does not reduce adverse impacts to an acceptable level; and (2) the identified impacts constitute unnecessary and undue degradation of public lands or resources. This takes into consideration that due and necessary degradation is acceptable.

Any application of mitigation (COA) to a post-lease operation is subject to State Director Review if requested by the operator. Such a review would consider whether the identified impact is unnecessary or undue degradation. If so determined, the COA would be upheld as being consistent with the granted lease rights, and within the Government's reserved authority to mitigate operations. If determined to be due and necessary degradation, the COA (mitigation) would not be allowed. If the disallowed mitigation was developed in an RMP, then a plan maintenance action or amendment would be necessary to correct any decisions which may infringe on valid existing rights.

APPENDIX 5-3

EROSION CONTROL, REVEGETATION, AND RESTORATION PLAN (ERRP)

The purpose of developing an ERRP is to allow for cooperative innovation in site development and reclamation of a disturbed area to a predetermined land use for wellfield and treatment plant activities. The following is an outline of topics to be covered in an ERRP. All ERRPs must address these points but they are not limited to them. Although the ERRP is a formal document, amendments can be approved by the Authorizing Officer.

I. INTRODUCTION

Clear Identification of Reclamation Goal

This is to be identified by the Federal Land Management (FLM) agency concerned and should include specific goals for percent perennial cover and species diversity expected for successful reclamation. Predisturbance cover would be used as a guideline for establishing goals.

Short description of activity causing disturbance and project time frames.

Proposed Start Date
Duration of Project
Completion Date
End of Project Life (Estimate)

Set time frames for ERRP

Seasonal reviews to initiate change.
When plan would be considered implemented.

Soil surveys may be required in intensively developing areas for site development mitigation and impact analysis.

II. OBLIGATION

Exactly who (individual name, address, phone) is responsible for what in the:

Design of Plan
Execution of Plan
Monitoring of Progress

An experienced and trained professional (i.e., soil scientist, reclamation specialist) that has been approved by the Authorized Officer (AO) is required to prepare and lead the implementation and monitoring of this plan.

III. SITE MAP FOR PROJECT SHOULD INCLUDE

This information should not just cover the proposed disturbed area, but should extend beyond site boundaries by approximately 150 yards.

Soil Description and Boundaries Symbols

Soil Outcrop
Photo Record Point
Riparian Areas
Saline Areas

Location and Volume of Proposed Material Stockpiles

Time Material Would Be Stored
Type of Material in Pile

Identify Existing Drainage Patterns

Identify Existing Vegetative Cover

Identify Existing ORV or Two-Track Roads

IV. ZERO RUNOFF

Zero runoff for purposes of the ERRP means: No portion of natural or man-caused liquid would leave the disturbed area by either surface or sub-surface flow.

All disturbed sites, except linear rights-of-way, would maintain zero runoff until the area is stabilized. Stabilization would be a value that must be clearly defined in the plan.

Stabilization for purposes of the ERRP is to mean: That point in time when neither erosion nor deposition occurs which is greater than pre-disturbance. This point must be measurable (site monitoring) and self-sustaining, i.e., not dependent on site maintenance.

The AO can approve a variance from zero runoff based on detailed site specific analysis that would consider meteorology, topography, water quality, and special site design and/or construction measures.

V. EROSION CONTROL MEASURES

Description of Proposed Measures

Identify levels of runoff planned for, i.e.: 50 year storm, etc.
Include capacity of all retention structures and engineering design.

Map locating erosion control measures placement

Include Zero Runoff Measures.

VI. FUGITIVE DUST CONTROL

Watering or other approved dust abatement procedures would be done to prevent severe wind erosion and loss of soil materials during construction.

Describe

How and When

VII. REVEGETATION

Type
Seed
Established Stock
Site Preparation
Planting

Planting Time Frames
Planting Method and Equipment

Fertilization Program

Rationale for Fertilizing or Not Fertilizing

VIII. MONITORING SITE RECLAMATION PROGRESS

Methods
Time Frames
Photo Record Station (with location) of Site Pre-disturbance

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IX. SITE ABANDONMENT

Include Time Frames

X. POTENTIAL PROBLEMS

Address Possible Weak Points
Erosion

Slumping

ORV Use (i.e., cover points that might conflict over ERRP implementation with area land use goals)

Snow (management)

Company Fire Policy (weed control) Vs. Vegetation Management Goals

APPENDIX 5-4

GENERAL SOILS MAP LEGEND

1 Battlespring, Farson, Fraddle, Tresano, Pepal, Huguston soils

Deep and moderately deep, well drained soils formed in sandy and gravelly alluvium on nearly level or gently sloping broad valley filling alluvial fans and upland plains or pediments. These soils are on stable landscapes and are often well developed. Elevation: 6,500 to 7,000 feet. Precipitation: 7 to 9 inches.

2 Grieves, Almy, Goslin, Tisworth, Brownsto, Ryan Park, Forelle, McFadden, Castello, Fiveoh soils

Deep, well drained alluvial soils formed on sloping alluvial fans and mountain toeslopes. This unit occurs along secondary streams. Elevation: 6,500 to 7,500 feet. Precipitation: 10 to 14 inches.

3 Chrisman, Shellcreek, Dinco, Dines, Corlett, Kandaly soils

Deep, moderately well drained soils formed in fine textured, saline and/or alkaline alluvial or lacustrine sediments on nearly level basins and fans. Included in this unit are playas and intermittent centripetally drained basins. Elevation: 6,500 to 7,000 feet. Precipitation: 6 to 9 inches.

4 Millpot, Stunner, McCort, Starley, Cheadle, Scout, Uinta soils

Deep, well drained gravelly sandy loam and sandy loam soils formed in Bishop Conglomerate on nearly level to sloping tablelands and mountain tops. Elevation: 7,500 to 9,500 feet. Precipitation: 12 to 19 inches.

5 Roxal, Pishkun, Feltonia, Amsden, Libeg, Leavitt, Teeler, Teemat soils

Shallow to deep, well drained soils formed on steep mountain slopes. This unit is subject to landslides. Elevation: 7,500 to 9,000 feet. Precipitation: 12 to 19 inches.

6 Cambarge, Pepal, Huguston, Leckman soils

Deep, well drained, gravelly sandy loam and fine sandy loam soils formed on nearly level or sloping stream terraces and alluvial fans. Elevation: 6,200 to 6,500 feet. Precipitation: 7 to 9 inches.

7 Teagulf, Huguston, Haterton, Wint, Tasselman, Seedskaadee, Leckman, Kandaly soils

Moderately deep to very shallow, well drained soils formed on rolling upland plains dissected by rock ravines, short escarpments, and draws. Elevation: 6,100 to 6,700 feet. Precipitation: 7 to 9 inches.

8 Kandaly, Teagulf, Huguston, Tasselman, Leckman, Pepal soils

Deep sand dunes intermingled with moderately deep and shallow, well drained soils formed on rolling upland plains. Elevation: 6,100 to 7,000 feet. Precipitation: 7 to 9 inches.

9 Kandaly, Westvaco, Haterton, Teagulf, Huguston soils

Deep sand dunes intermingled with moderately deep to very shallow, well drained, strongly alkaline soils formed on rolling upland plains and fans. Included in this unit are some areas of badlands. Elevation: 6,300 to 7,000 feet. Precipitation: 7 to 9 inches.

10 Cotopaxi soils

Deep, excessively drained shifting sand dunes and sandy soils formed on undulating eolian sand deposits. Elevation: 6,400 to 7,000 feet. Precipitation: 7 to 9 inches.

11 Huguston, Wint, Haterton, Spool, LaMarsh soils

Rock outcrop and shallow, well drained soils formed on steep ridges, escarpments, and mountain slopes. Included in this unit are some areas of badlands. Elevation: 6,000 to 8,000 feet. Precipitation: 8 to 14 inches.

12 Blackhall, Rentsac, Carmody, Grieves, Rencot, Thermopolis, Elk Mountain, Blazon, Delphill, Redwash, Redcreek, Shinbara soils

Shallow and moderately deep, well drained soils formed on sloping upland plains with deep, steep-sided ravines. Elevation: 7,000 to 7,500 feet. Precipitation: 10 to 14 inches.

13 Dines, Quealman, Chrisman

Deep, poorly to well drained soils formed on nearly level or sloping floodplains, bottomlands, and alluvial fans. Some soils in this unit are strongly saline and/or alkaline. Elevation: 6,000 to 6,600 feet. Precipitation: 7 to 9 inches.

14 Typic Torriorthents, Typic Natragids, Typic Torrifluvents, Typic Calciorthisds soils

Shallow to deep, well to excessively drained sandy and loamy soils formed on nearly level to steep uplands. Some soils in this unit are strongly alkaline. Elevation: 6,000 to 7,000 feet. Precipitation: 7 to 9 inches.

15 Ustic Torriorthents, Ustic Torrifluvents, Borrollic Haplargids

Shallow to deep, well to excessively drained sandy and loamy soils formed on nearly level to steep uplands. Elevation: 7,000 to 7,500 feet. Precipitation: 10 to 14 inches.

16 Typic Cryorthents, Argic Cryoborolls soils

Shallow to deep, well to excessively drained soils formed on rolling to steep foothills of the Wind River Range. Elevation: 7,200 to 8,000 feet. Precipitation: 10 to 14 inches.

17 Argic Cryoborolls, Typic Cryaquolls, Ustic Torrifluvents, Borrollic Natragids soils

Shallow to deep, excessively to poorly drained sandy and loamy soils formed on nearly level to sloping terraces and floodplains. Some soils in this unit are strongly alkaline. Elevation: 6,800 to 7,500 feet. Precipitation: 10 to 14 inches.

18 Typic Cryoboralfs, Argic Cryoborolls, Agric Pachic Cryoborolls soils

Very shallow to deep, well drained sandy soils formed in granitic glacial outwash on steep mountain slopes and foothills. Elevation: 8,000 to 10,000 feet. Precipitation: 12 to 16 inches.

19 Typic Cryoborolls, Argic Cryoborolls, Argic Pachic Cryoborolls soils

Shallow to deep, well drained sandy and loamy soils formed in granitic glacial outwash on mountains slopes, foothills, terraces, and moraines. Elevation: 7,500 to 8,500 feet. Precipitation: 12 to 14 inches.

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20 Havre, Forelle, Absher soils

Deep, well drained loamy soils formed on nearly level to sloping floodplains, fans, and valley fill. Elevation: 7,500 to 8,500 feet. Precipitation: 12 to 14 inches.

21 Countryman, Tisworth, Iceslew, Absher soils

Deep, well and somewhat poorly drained sandy and loamy soils formed on sloping floodplains. Elevation: 6,500 to 8,000 feet. Precipitation: 10 to 14 inches.

22 Gelkie, Hoodie, Uhl soils

Deep, well drained sandy, loamy, and gravelly soils formed on rolling plains, terraces, fans, and areas of valley fill. Elevation: 7,000 to 8,500 feet. Precipitation: 10 to 14 inches.

23 Conpeak, Cryluha soils

Shallow to moderately deep, well drained sandy and gravelly soils formed on sloping to steep hills, ridges, escarpments, fans, and pediments. Elevation: 7,000 to 8,500 feet. Precipitation: 10 to 14 inches.

24 Canburn, Turson, Dobrow, Gas Creek, Menbar, Fox Creek, Furniss, Heinsaw, Lachapella, Henrysfork, Newfork, Outlet, Redlodge, Tepete, Venapass soils

Deep, well to poorly drained, soils formed on nearly level floodplains, fans, and bottomlands. Elevation: 7,200 to 8,500 feet. Precipitation: 12 to 18 inches.

25 Dahlquist, Attewan, Brownsto, Bosler, Millburne, Abarca, Brusett, Evanston, Grimm, Poposhia, Redrob, Sinkson soils

Deep, well drained cobbly and gravelly soils formed on nearly level or sloping benches and terraces. Elevation: 6,700 to 7,200 feet. Precipitation: 10 to 14 inches.

26 Haterton, Terada, Huguston, Youjay, Garsid, Kandaly, Monte, Cambarge, Langspring, Teagulf soils

Shallow to deep, well drained soils formed on undulating or hilly formed on uplands. This unit includes some badlands. Elevation: 6,300 to 7,000 feet. Precipitation: 7 to 9 inches.

27 Hickey, Luhon, Evanston, Blazon, Brownsto, McFadden, Poposhia soils

Shallow to deep, well drained soils formed on undulating or hilly glacial moraines, old landslide areas, and footslopes. Elevation: 7,500 to 8,500 feet. Precipitation: 10 to 14 inches.

APPENDIX 5-5

SOILS

Unstable soils are those soils or soil groups (see map units) susceptible to landslides or slumping activity and which may be a hazard to permanent structures. These soils are generally found on mountain slopes and usually have a hummocky landscape as evidence of past mass movement.

Sandy soils (i.e., soils coarser than sandy loams such as loamy fine sands, loamy sands, and sands) are very susceptible to wind erosion when the protective vegetative cover has been removed. These soils are found on vegetated and stabilized dunes, uplands, and on intermittent stabilized dunes on alluvial fans. Active sand dunes are not included in this category.

Erosive soils are grouped in this category as a result of their depth, texture, and/or position on the landscape. Many of these soils are shallow (less than 20 inches to bedrock), have low water-holding capacity, and have high runoff potential. These soils are less able to withstand the erosiveness of running water compared to more developed or stable soils. The susceptibility of a particular soil to erode at a rate greater than new soil can be formed would make it highly erosive. Soils with severe erosion susceptibility present particular management problems. This does not mean that the listed soils would always erode rapidly or that those not listed would not erode. It does suggest that those soils identified as highly erodible have a history and a tendency to erode.

The following soil map units with component soils are listed for the above categories.

Unstable Soils

- 591 Luhon-McFadden, 10-30% slopes
- 705 Slider-Pishkun-Adel, 15-50% slopes
- 710 Slider-Rock Outcrop, 30-100% slopes

Sandy Soils

- 20 and 479 Cotopaxi, 1-20% slopes
- 68 Kandaly, 1-10% slopes
- 113B Kandaly-Rock Outcrop, 3-10% slopes
- 141 Stabilized Dunes

- 142 Dunes and Stabilized Dunes
- 143 Stabilized Dunes and Residual Uplands
- 169 Screggs-Littsan-Shaul, 3-20% slopes
- 420 Dunkle-Battlespring, 1-4% slopes
- 426 Battlespring-Dunkle, 3-10% slopes
- 427 Battlespring, 1-10% slopes
- 443 Dunkle, 1-4% slopes
- 463 Kandaly-Horsley-Westvaco, 1-6% slopes
- 468 Kandaly-Huguston-Texasgulf, 4-15% slopes
- 475 Thayer-Kandaly, 1-6% slopes
- 478 Otterson, 1-8% slopes
- 540 Zeomong, 1-20% slopes
- 836 Screggs, 2-8% slopes

Erosive Soils

- 15 Typic Camborthids, 3-25% slopes
- 16 Typic Haplargids, 3-30% slopes
- 17 Typic Camborthids, 3-30% slopes
- 33 Typic Camborthids, 2-18% slopes
- 35 Typic Camborthids, 2-25% slopes
- 233 Typic Torriorthents, 30-70% slopes
- 464 Boltus-Horsley, 8-30% slopes
- 485 Jansley-Horsley-Haterton, alkaline, 8-30% slopes
- 487 Huguston-Rock Outcrop, 8-25% slopes
- 502 Goslin Complex, 3-10% slopes
- 503 Almy Complex, 3-10% slopes
- 506 Redwash-Spool-Rock Outcrop, 30-50% slopes
- 507 Tisworth-Goslin, 3-10% slopes
- 518 Thermopolis-Sinkson, 3-25% slopes
- 526 Thermopolis-Rock Outcrop, 6-40% slopes
- 557 Shinbara, 30-50% slopes
- 563 Blazon-Shinbara-Rentsac, 30-60% slopes
- 707 Libeg-Ansden Variant-Teeman, 15-50% slopes
- 709 Southace-Teeman-Teeler, 10-60% slopes
- 759 Roxal-Rock Outcrop, 30-70% slopes
- 818 Firehole-Jansley-Rock Outcrop, 20-60% slopes
- 834 Jansley, 30-70% slopes
- R4 Rock Outcrop-Redwash, 10-100% slopes

APPENDIX 6-1

SECTION 106 COMPLIANCE PROCESS

Figure 16 depicts the narrative of the cultural resources process.

1. The BLM may require a cultural survey of a proposed project area. The survey is conducted by either BLM personnel or an outside contractor. A survey report is produced and copies provided to BLM and the State Historic Preservation Officer (SHPO). The BLM uses the report as a basis for National Register evaluations of sites located, determining the effect of the project on any significant resources, and the need to mitigate any impacts to significant resources.
2. The BLM specialist or cultural resource consultant plans the survey project, conducts background research on the project area, reviews regional overviews and other documents for pertinent previous research and terrain and field conditions in the project area. Before beginning fieldwork, the consultant conducts a site file search at the SHPO records office, and if necessary, at the local BLM office.
 - 2A. If the file search reveals that the project area has been adequately surveyed, or if the project area is one of demonstrably low site potential, a resurvey may not be warranted. The responsibility for determining the need for a survey rests with the BLM in consultation with the SHPO.
 - 2B. The results of the file search are documented in a report that should contain a complete bibliographic reference of the previous surveys and summary of previous sites located.
3. The BLM or consultant conducts the field survey of the project area. If standard inventory requirements would not apply, the overall methodology, including survey intensity and area of study, would be determined by the BLM in consultation with the SHPO.
 - 3A. If no sites are discovered during the survey, and if no previously recorded sites are located in the survey area, the negative results of the survey are documented in a Class III report. Cultural resource clearance is granted and the project proceeds, subject to other resource considerations, as applicable.
 - 3B. If sites are discovered during the survey, or if previously recorded sites are located in the survey area, Steps 4 through 9 are followed.
4. Each site located is recorded on an Intermountain Antiquities Computer System (IMACS) site form.
5. Each new site and each previously recorded site is evaluated for National Register eligibility. Limited testing should be conducted as necessary.
6. If a site is determined, in consultation between the BLM and SHPO, to be
 - 6A. not eligible for the National Register, no further work (i.e. testing, monitoring, excavation or avoidance) is usually required.
7. If a site is evaluated as eligible for the National Register, the
 - 7A. reasons for its eligibility must be documented, with a detailed description of how the site meets the Criteria of Eligibility (36 CFR 60.4). If a site is eligible because of its research potential or information content (36 CFR 60.4(d)) the report must document and discuss the site information content in terms of pertinent research questions which may be addressed.
8. The effect of the project on each eligible site is evaluated and documented. "Effect" is determined by applying the criteria in 36 CFR 800.3.
 - 8A1. If there will be no effect, no further work at the site is warranted.
 - 8A2. This is documented in the Class III report (see Step 9).
 - 8B1. If the impacts to the site will result in adverse effects, this is also documented in the Class III report (see Step 9).
 - 8B2. Recommendations to mitigate adverse effects should be directed at reducing or eliminating impacts to those qualities which make the site eligible for the National Register. Avoidance or in situ preservation are the preferred options. Data recovery is appropriate if avoidance or in situ preservation are not feasible or cost effective. Monitoring of construction may also be used under certain conditions.
9. A report is prepared documenting the results of Steps 1 through 8A2 and/or 8B2 and copies of the report submitted to the BLM, the SHPO, and the applicant/land user.
10. The BLM, in consultation with the SHPO, and the Advisory Council on Historic Preservation use the information provided in Step 9 to carry the "106" review process to completion.
11. After the above process is completed, the proposed land use may be permitted with appropriate resource stipulations.

The BLM also manages cultural resources pursuant to mandates in Section 110 of the National Historic Preservation Act and sites that are not significant within the Section 106 context may still be managed for certain purposes under Section 110.

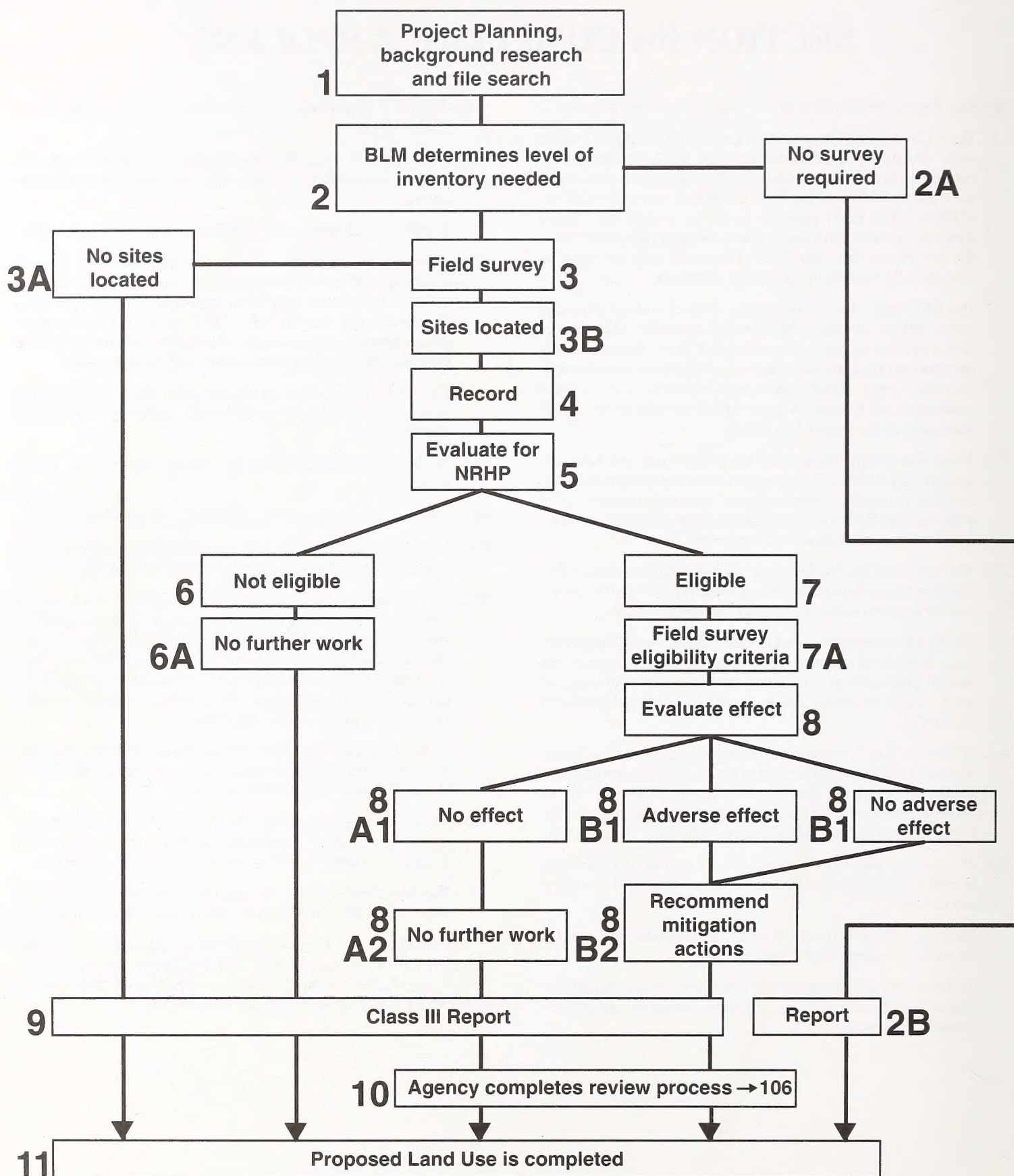


Figure 16
Cultural Resources Process
 Green River Planning Area

APPENDIX 6-2

GENERAL CULTURAL PRESCRIPTIONS

General Management Prescriptions

Initiate formal law enforcement patrol of the Sugarloaf petroglyphs, Tolar petroglyphs, White Mountain Petroglyphs ACEC, Cedar Canyon petroglyphs, Eden-Farson site, Pine Springs ACEC, and LaBarge Bluffs petroglyphs.

Administration of the Archeological Resources Protection Act (ARPA)

Administration of the ARPA will focus on three areas:

Public Education/Outreach Programs—designed to increase public appreciation and understanding of cultural resources through formal presentations to school groups, civic organizations, businesses, and other government offices; hosting of an annual Archeology Week fair at a shopping mall or other large facility; publication of brochures and other materials; leading tours to important sites; participation in academic forums and presentation of professional papers; sponsorship; or cooperative agreement for formal archeological and historical field schools.

Administrative Controls—including fencing, road closures, withdrawals, sign posting, and similar physical and administrative protection including, when possible, formal **inventory** of specific areas identified as likely to be impacted by looters and vandals.

Law Enforcement Patrol—District Ranger, sometimes with the assistance of Cultural Program personnel, would patrol specific sites and general areas identified as high potential for ARPA violation. Areas designated at this time include the Adobe Town-Monument Valley region and the Devils Playground-Twin Buttes area. Specific sites identified are the Dug Springs stage station, LaCiede stage station, White Mountain petroglyphs, Cedar Canyon petroglyphs, Tolar petroglyphs, LaBarge Bluffs petroglyphs, Pine Spring, Sage Creek Mountain burial sites, North Table Mountain stratified site and associated site complex, Eden-Farson site, Finley site, and Farson Fossil Fish Beds, Eighteenmile Canyon Fish Beds, and Canyon Creek Fossil Rookery paleontological sites.

Fire Management Direction

Known Native American grave sites would be provided to the Fire Management Officer so that they would not be impacted by fire suppression activities.

Cultural inventories would not normally be required prior to fire fighting activities in most cases. On a case-by-case basis, the area archeologist may request the opportunity to inventory specific areas prior to their impact by firefighting activities.

The cultural program may conduct post-fire inventory of areas where fire lines were bladed or other substantial surface disturbance took place, and mitigation efforts may be undertaken at the discretion of the Area Manager.

APPENDIX 7-1

PROCEDURES FOR PROCESSING APPLICATIONS IN AREAS OF SEASONAL RESTRICTION

Upon receipt of an application, the project location is reviewed against the resource management plan (RMP) to determine conformance with the plan and to identify existing resource concerns in the project area. An APD is posted for 30 days for public review.

Gather existing National Environmental Policy Act (NEPA) documents pertinent to the proposal or the project area.

Review the proposal against existing environmental documents and the RMP to determine whether existing documentation is adequate.

If existing documentation is adequate, prepare an Administrative Determination (AD) including appropriate mitigation measures (see Wyoming Instruction Memorandum WY-90-346).

If existing documentation is insufficient or nonexistent, prepare NEPA documentation as needed using appropriate format (see BLM NEPA Handbook, H-1790-1).

Issue a decision on the application consistent with the AD or tiered NEPA document as appropriate.

NOTE: In seasonally crucial wildlife habitat, an approved APD will generally include a seasonal Condition of Approval (COA) because (1) the APD is valid for one year from date of issuance and BLM does not control the start-up date for project activity; and (2) field conditions during the crucial period cannot be predicted at the time of APD approval.

If a seasonally restrictive COA is needed because a lease contains no such stipulation, the decision whether to impose the restriction must also consider the reasonableness of the restriction relative to the operator's ability to exercise the benefits of the lease (43 CFR 3101.1-2). The need for a COA must be documented in a site specific EA or EIS, if necessary. This analysis must provide clear and convincing evidence showing undue and unnecessary degradation would result if the COA were not applied.

PROCEDURES FOR HANDLING REQUESTS FOR EXCEPTION FROM SEASONAL STIPULATIONS AND/OR CONDITIONS OF APPROVAL

A request for exception must be initiated in writing by the operator. This may be done concurrently with submission of an application (typical for situations involving lease stipulations), or subsequent to permit approval (in the case of COAs attached to approved permit).

When requested concurrently with an application, the exception from a stipulation or from a COA is considered as part of the project proposal in RMP and NEPA compliance review.

For separate requests, the request is considered as a unique action and is analyzed and documented individually for RMP and NEPA compliance.

In both cases, processing includes coordination with Wyoming Game and Fish Department (WGFD) for seasonal wildlife-based lease stipulations or permit COAs.

The unpredictability of weather, animal movement and condition, etc., preclude analysis of requests related to wildlife far in advance of the time periods in question.

Analyses of requests include review of potential mitigation measures and alternatives (traffic restrictions, alternative scheduling, staged activity, etc.).

CRITERIA FOR CONSIDERING EXCEPTIONS TO SEASONAL RESTRICTED ACTIVITY

Presently, land use activities within the Green River Resource Area may be authorized with a seasonal restriction(s), "no surface occupancy" or a distance restriction for sensitive and crucial habitats. Stipulations were developed to provide protection of natural resources. Protective wildlife seasonal stipulations are developed consistent with statewide dates. For example, big game crucial winter ranges are protected from November 15 through April 30. This restriction is not intended to close an area to development but is in place to protect big game if weather or other habitat needs dictate that it is necessary.

Over the past few years the public has received the impression that crucial winter ranges are off limits to any activity. This is true only when conditions dictate. The BLM can and does grant exceptions to seasonal restrictions if the wildlife biologist, in consultation with the Wyoming Game and Fish Department, feels that granting an exception will not jeopardize the population being protected. Wildlife biologists use a set of criteria when considering a request for an exception. Professional judgement plays a key part in the Bureau's biologist's recommendation to the Area Manager to grant or not grant exception(s). There is no clear cut formula.

Approximately 60 percent of the Federal land acres (2,331,000 acres) in the resource area have no wildlife restrictions. Following are some of the factors considered by the wildlife biologist to determine if a request for exception should be granted.

Big Game Winter Ranges

The criteria used for crucial big game winter range are those areas available, relatively intact, and winter most of the population at its objective in adequate body condition, eight or more years out of ten. The most crucial time period for these animals in the Green River Resource Area is usually from January 1 through March 15, and this time period is when the stipulation dates are generally enforced. However, the remaining time frames of the standard statewide stipulation allows the authorizing officer the option to enforce a longer seasonal restriction if winter conditions warrant.

A. General Considerations Regarding a Request for Exception

- Are the factors leading to the inclusion of the wildlife seasonal restriction still valid?
- Is the request for an exception from a lease stipulation or is it for relief from a condition of approval on an application (e.g., APD, SN, ROW)?
- What are the dates for the proposed exception/relief?

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B. Criteria to Consider for Granting Exceptions on Winter Ranges:

1. Animal presence or absence
2. Animal condition
3. Weather severity
 - snow conditions (depth, crusting, longevity)
 - seasonal weather patterns
 - wind chill factors (indication of animals energy use)
 - air temperatures & variation
 - duration of condition
 - forecasts - long range for duration of winter
4. Habitat Condition and Availability.
 - animal density, high or low
 - forage condition, good or poor
 - competition — livestock/other wildlife
 - forage availability
 - amount of forage
 - snow depth
 - has livestock use decreased available winter forage
 - is there suitable and ample forage immediately available and accessible nearby that is not being used
5. Site Location
 - likelihood of animals habituating to activity
 - presence of thermal cover, wind cover, etc.
 - what proportion of winter range is affected
 - where is the site located within the winter range
 - is there other activity in the area and is this activity likely to increase the cumulative adverse impact
6. Timing
 - early in winter season
 - nearing end of winter season
 - what kind of and length of disruptive activity is expected
 - how much of the winter is remaining when activity is likely to occur

General Considerations for Granting Exceptions to Stipulations

Elk

- Short-term exceptions are more likely to be considered early (November 15 -December 1) and late (April 1 - April 30) in the winter season, depending on weather conditions and animal occupancy. Exceptions would not be granted if requested from December 1 - March 1 unless unusually mild winter conditions prevail. Exceptions in elk calving areas (May 1 - June 30) dates will not be granted due to elk sensitivity to disturbance. Displacement in open habitats is much greater than woodlots or forests, hence restricted areas will encompass larger areas in open habitat.

Moose

- Exceptions will depend on weather conditions and presence of animals.

- Moose habitat is given protection through riparian and stream buffer zone stipulations (500 feet from live water and riparian habitats).

Antelope

- Exceptions will generally be granted except where physical barriers (i.e., Highways, fences, rivers, canyons, etc.) limit animals ability to move into other suitable habitats. In the case of developing oil and gas fields with proposed intensive or disruptive disturbances, BLM and WGFD coordination will be required to assure that cumulative disturbance and/or range competition with other big game and livestock will not affect herd unit objectives. Exceptions to restrictions will be closely watched during severe winters when antelope movement is restricted.

Deer

- Short-term exceptions may be granted early (November 15 - December 1) and late (April 1 - April 30) depending on weather conditions and animal occupancy, using the previously discussed criteria. Exceptions can be granted for north slopes, deep snow areas or other habitats within crucial ranges which preclude use by wintering deer and in which access roads are determined to have little adverse impact.

Raptors

- The "no surface occupancy" stipulation of February 1 to July 31, within ½ or 1 mile of raptor nests can be shortened, depending on nesting chronology of individual species, nest site location, and topography. Inactive nests can be excepted, as may certain types of short-term, minor disruption land use activities which are not anticipated to affect nesting success.

Sage Grouse

A "controlled surface use" stipulation will be applied to a ¼ mile radius of active sage grouse strutting grounds to include no aboveground facilities (power lines, storage tanks, fences, etc.). Linear disturbances such as low-traffic roads, pipelines, seismic activity, etc., could be granted exceptions. A "controlled surface use" stipulation will be applied from February 1 through May 15, within ¼ mile radius of active strutting grounds from 6 p.m. to 9 a.m. daily. The actual timing of this stipulation can be modified by weather conditions such as fog and cloudy conditions, or clear, bright moonlit nights. Seasonal restrictions would be applied through July 31, within an additional 1.75-mile radius from leks to protect sage grouse nesting habitat. Areas within that radius not used for nesting can be excepted, provided actual nesting areas are not affected.

The final determination for granting an exception to wildlife stipulations will be a decision by the Bureau of Land Management after consultation with the Wyoming Game and Fish Department.

These procedures will be utilized for any request for exception for a surface disturbing or disruptive activity.

APPENDIX 7-2

OIL AND GAS OPERATIONS

GEOPHYSICAL EXPLORATION

Oil and gas can be discovered by either direct or indirect exploration methods such as the mapping of rock outcrops, seeps, borehole data, and remote sensing data. In many cases indirect methods, such as seismic, gravity, and magnetic surveys are required to delineate subsurface features which may contain oil and gas.

Gravity Surveys

Gravitational prospecting detects micro-variations in gravitational attraction caused by the differences in the density of various types of rock. Gravity data is used to generate anomaly maps from which faults and general structural trends can be interpreted. These surveys are generally not considered definitive due to the many data corrections required (e.g., terrain, elevation, latitude, etc.) and the poor resolution of complex subsurface structures. The instrument used for gravity surveys is a small portable device called a gravimeter. Generally measurements are taken at many points along a linear transect and the gravimeter is transported either by backpack, helicopter, or off-road vehicle. The only surface disturbance associated with gravity prospecting is that caused by a vehicle, if used.

Geomagnetic Surveys

Magnetic prospecting is most commonly used for locating metallic ore bodies but is used to a limited extent in oil and gas exploration. Magnetic surveys use an instrument called a magnetometer to detect small magnetic anomalies caused by mineral and lithologic variations in the earth's crust. These surveys can detect large trends in basement rock and the approximate depth to those basement rocks, but in general they provide little specific data to aid in petroleum exploration. Many data corrections are required to obtain reliable information and maps generated lack resolution and are considered preliminary. Magnetometers vary greatly in size and complexity and in general most magnetic surveys are conducted from the air by suspending a magnetometer under an airplane. Magnetic surveys conducted on the ground are nearly identical to gravity surveys and surface disturbance is minimal to nonexistent.

Seismic Reflection Surveys

Seismic prospecting is the best and most popular indirect method currently utilized for locating subsurface structures which may contain oil and/or gas. Seismic energy (shock waves) is induced into the earth using one of several methods. As these waves travel downward and outward they encounter various rock strata, each having a different seismic velocity. As the wave energy encounters the interface between rock layers where the lower layer is of lower velocity some of the seismic energy is reflected upward. Sensing devices commonly called geophones are placed on the surface to detect these reflections. The geophones are connected to a data recording truck which stores data on magnetic tape. The time required for the shock waves to travel from the shot point down to a given reflector and back to the geophone can be related to depth.

There are many methods available today which an explorationist can use to induce the initial seismic energy into the earth. All methods require preliminary surveying and laying of geophones. The thumper and vibrator methods pound or vibrate the earth to create a shock wave. Usually four large trucks are used, each equipped with vibrator pads (about four-foot square). The pads are lowered to the ground and vibrators on all trucks are triggered

electronically from the recording truck. Information is recorded and then the trucks move forward a short distance and the process is repeated. Less than 50 square feet of surface area is required to operate the equipment at each test site.

The drilling method utilizes truck-mounted drills which drill small-diameter holes to depths of 100 to 200 feet. Four to twelve holes are drilled per mile of line. Usually, a 50-pound charge of explosives is placed in the hole, covered, and detonated. The detonated explosive sends energy waves below the earth's surface which are reflected back to the surface from various subsurface rock layers. In rugged topography, a portable drill is sometimes carried in by helicopter. Charges are placed in the hole as in a truck-mounted operation. Another portable technique is to carry the charges in a helicopter and place the charges on wooden sticks, or lath, three feet or so above the ground. Charges used are either 2½ or 5 pounds. Usually, 10 charges in a line on the ground are detonated at once. In remote areas where there is little known subsurface data, a series of short seismic lines may be required to determine the attitude of subsurface formations. After this, seismic lines will be aligned relative to the regional structure to make seismic interpretation more accurate.

The seismic sensors and energy source are located along lines on a one- to two-mile grid. Although alignment may be fairly critical, spacing of the lines can often be changed one-quarter mile on a one-mile grid before the results will significantly affect the investigation program.

A typical drilling seismic operation may utilize 10 to 15 men operating five to seven trucks. Under normal conditions, 3 to 5 miles of line can be surveyed each day using the explosive method. The vehicles used for a drilling program include several heavy truck-mounted drill rigs, water trucks, a computer recording truck, and several light pickups for the surveyors, shot hole crew, geophone crew, permit man, and party chief.

Public roads and existing private roads and trails are used. Off-road cross-country travel may be necessary to carry out tasks. Motor graders and/or dozers may be required to provide access to remote areas. Concern about unnecessary surface disturbance has caused government and industry to more carefully plan surveys. As a result, earth moving equipment is now only rarely used in seismic exploration work. Several trips a day are made along a seismograph line; this usually establishes a well defined two-track trail. The repeated movement back and forth along the line (particularly the light pickups) defines the trail. Spreading vehicles out so that vehicle routes are not straight, and vehicles do not retrace the same route has in some cases prevented the establishment of new trails, and has reduced impacts. Drilling water, when needed, is usually obtained from the nearest source.

A variation on the above techniques is the three dimensional seismic profile survey, commonly called a 3d seismic survey. The methods of generating the seismic waves are the same as those used in conventional seismic surveys. This type of survey differs from the more common two dimensional survey in the greater number of datapoints and the closer spacing of the lines. Three dimensional seismic surveys are more computer intensive in the use of the data, but result in a more detailed and informative subsurface picture (with an accompanying higher cost). The orientation and arrangement for the components in three dimensional seismic surveys are less tolerant of adjustments to the physical locations of the lines and geophones, but they are also more compact in areal extent.

Each of the foregoing methods have inherent strengths and weaknesses and explorationists must decide which method is the most practical with regard to surface constraints (such as topography) but will still produce information which can be useful for the particular study. Extensive computer processing of the raw data is required to produce a useable seismic section from which geophysicists may interpret structural relationships to depths of 30,000 feet or more. The effective depth of investigation and resolution are determined to some degree by which method is used.

Geophysical Management (Permitting Process)

Geophysical operations on and off an oil and gas lease are reviewed by the federal surface management agency - BLM, Bureau of Reclamation, or Forest Service, as appropriate. Good administration and surface protection on geophysical operations can only be accomplished through close cooperation of the operator and affected agency. Over a 16-year period (from 1975 through 1990) the Resource Area has processed 256 seismic exploration notices or permits (Table A7-2-1) on public lands. An average of 16 notices or permits can be expected to be processed in any year.

TABLE A7-2-1

SEISMIC EXPLORATION PERMITS ON PUBLIC LANDS

Year	Number of Permits Approved
1975	38
1976	16
1977	15
1978	18
1979	10
1980	9
1981	27
1982	21
1983	14
1984	12
1985	14
1986	7
1987	8
1988	11
1989	12
1990	24
1991	14
TOTAL	270

The responsibilities of the geophysical operator and the Area Manager during geophysical operations are as follows (USDI 1989b):

1. Geophysical Operator - An operator is required to file with the Area Manager a "Notice of Intent to Conduct Oil and Gas Exploration Operations." The "Notice of Intent" shall include a map showing the location of the line, all access routes, and ancillary facilities. The party filing the "Notice of Intent" shall be bonded. A copy of the bond or other evidence of satisfactory bonding shall accompany the Notice.

For geophysical operation methods involving surface disturbance, a cultural resources survey may also be required. A pre-work field conference may be conducted. Earth-moving equipment shall not be used without prior approval. Upon

completion of operations, including any required rehabilitation, the operator is required to file a "Notice of Completion of Oil and Gas Exploration Operations."

2. Area Manager - The Area Manager shall contact the operator after the "Notice of Intent" is filed and apprise the operator of the practices and procedures to be followed prior to commencing operations on BLM-administered lands.

The Area Manager shall complete a final inspection and notify the operator if the terms and conditions of the "Notice of Intent" have been met or that additional action is required. Consent to release the bond or termination of liability shall not be granted until the terms and conditions have been met.

State Standards

In Wyoming, the operator is required to register with the State. State standards for plugging shot holes, personnel safety, etc., will be followed.

Mitigation

Seasonal restrictions are imposed to reduce conflicts with wildlife, watershed damage, and hunting activity.

The most critical management practice is compliance monitoring during and after seismic activity. Compliance inspections during the operation ensure that stipulations are being followed. Compliance inspections upon completion of work ensure that the lines are clean and the drill holes are properly plugged.

OIL AND GAS LEASING

The Mineral Leasing Act provides that all public lands are open to oil and gas leasing unless a specific order has been issued to close an area. Based on the Federal Onshore Oil and Gas Leasing Reform Act of 1987, all leases must be exposed to competitive interest.

Lands which do not receive competitive interest will be available for noncompetitive leasing for a period not to exceed two years. Competitive sales will be held at least quarterly and by oral auction.

Competitive leases are issued for a term of 5 years or for as long as oil and/or gas is produced. Noncompetitive leases are issued for a term of 10 years, or as long as production continues.

The Federal Government receives yearly rental fees on non-producing leases. Royalty on production is received on producing leases, one half of which is returned to the State of Wyoming.

DRILLING PERMIT PROCESS

A federal lessee or operator is governed by procedures set forth by the Onshore Oil and Gas Order No. 1, "Approval of Operations on Onshore Federal and Indian Oil and Gas Leases," issued under 43 CFR 3164. Operating Order No. 1 lists the following as pertinent points to be followed by the lessee or operator: notice of staking; application for permit to drill (APD), which includes a multi-point surface use and operations plan; approval of subsequent operations; well abandonment; water well conversion; responsibilities on privately owned surface; and reports and activities required after well completion.

The federal lessee or operating company selects the location of a proposed drill site. The selection of the site is based on spacing requirements, the subsurface geology as interpreted by geologists and geophysicists, the topography, and the availability of funds for a specific well. Spacing requirements are established by the Wyo-

ming State Oil and Gas Commission. Each well is to be drilled within a given distance from the center of a legal subdivision (such as a quarter/quarter of a section or a quarter section, depending on the spacing assigned to the particular area). A proposed location may be moved within the tolerance or outside the designated tolerance (with a spacing exception granted by the Oil and Gas Commission). Occasionally, the Bureau may request that a lessee drill a well on the lease if it is determined that federally owned minerals are being drained by an adjacent well on private or state owned minerals (USDI 1981a).

1. Notice of Staking - After the company makes the decision to drill a well, they must decide whether to submit a notice or APD. The notice consists of an outline of what the company intends to do including a location map and sketched site plan. The notice is then used as a document to review any conflicts with known critical resource values, and also used at the on-site inspection to provide the preliminary data to assess what additional items are necessary to complete the APD.
2. Application for Permit to Drill (APD) - The operator or lessee may submit a completed APD in lieu of notice of staking, but in either case no surface activity is conducted in conjunction with the drilling until the APD is approved by the Bureau.

If the APD option is used, an APD is submitted to the Bureau and a field inspection is held with the operator and any other interested party. The purpose of the pre-site field inspection is to evaluate the operator's plan, to assess the situation for possible impacts (surface and subsurface), and to formulate resource protection stipulations. To lessen environmental impacts, a site may be moved, reoriented, or redimensioned, within certain limits, at the pre-site inspection. The proposed access road may also be rerouted (USDI 1981a). If necessary, site-specific mitigations are added to the APD for protection of surface and/or subsurface resource values in the vicinity of the proposed activity.

The Bureau is responsible for preparing environmental documentation necessary to satisfy the National Environmental Policy Act requirements and provide any mitigation measures needed to protect the affected resource values.

Consideration is also given to the protection of ground water resources. When processing an APD, the geologist is required to identify the maximum depth of usable water as defined in Onshore Oil and Gas Order No. 2. Usable water is defined as that water containing 10,000 parts per million or less of total dissolved solids. Water of this quality is to be protected, usually by surface casing and cement.

Determining the depth to fresh water requires specific water quality data in the proposed well vicinity or geophysical log determination of water quality, depending on existing well proximity and log availability. If water quality data or logs from nearby wells are not available, the area within a 2-mile radius of the proposed well is checked for water wells. If wells exist, surface casing is required to be set below the deepest fresh water zone found in these wells or to reach a depth below the reasonably estimated level of usable water.

When final approval is given by the BLM, the operator may commence construction and drilling operations. Approval of an APD is valid for one year. If construction does not begin within one year, the stipulations must be reviewed prior to approving another APD (USDI 1981a).

Economic conditions dramatically affect drilling activity and at the present time oil and gas markets are depressed nationwide. However, an upturn in the petroleum market could create a significant increase in the number of drilling wells within the Resource

Area as the entire area has high potential for oil and gas occurrence. Increases in activity have occurred over the past 3 years (1988, 1989, 1990), due to increased interest in obtaining gas to supply the Kern River gas pipeline to California. The resource area approved 74 drilling applications in fiscal year 1988, 81 in 1989, and 115 in 1990.

In the Resource Area, drilling depths range from a few thousand feet in the Rock Springs area to over 18,000 feet on the southern part of the Moxa Arch. The vast majority of the wells drilled in the resource area require 30 to 90 days to drill and complete. Some deep wildcats (17,000 to 20,000 feet) may require a year or more to drill and complete.

Surface Disturbance Associated With Exploratory Drilling

Upon receiving approval to drill the proposed well, the operator moves construction equipment over existing roads to the point where the access road will begin. Generally, the types of equipment include dozers (track-mounted and rubber-tired), scrapers, and motor-graders. Moving equipment to the construction site requires moving several loads (some overweight and overwidth) over public and private roads. Existing roads and trails are improved in places and occasionally culverts and cattleguards are installed if required.

The length of the access road varies. Generally the shortest feasible route is selected to reduce the haul distance and construction costs. Environmental factors or the landowner's wishes may dictate a longer route. In rough terrain, the type of construction is sidecasting (using the material taken from the cut portion of the road to construct the fill portion); slightly less than one-half of the road bed is on a cut area and the rest is on a fill area. Roads are usually constructed with a 14-foot (single lane) or 24-foot (double lane) running surface (in relatively level terrain). Soil texture, steepness of the topography, and moisture conditions may dictate surfacing the access road in some places but generally not for the entire length. The total acreage disturbed for each mile of access road constructed varies significantly with the steepness of the slope.

Well locations are constructed by one of three different general types of construction, but in every case, all soil material suitable for plant growth is first removed from areas to be disturbed and stockpiled in a designated area. Sites on flat terrain usually require little more than removing the topsoil material and vegetation. Drilling sites on ridge tops and hillsides are constructed by cutting and filling portions of the location. The majority of the excess cut material is stockpiled in an area that will allow it to be easily recovered for rehabilitation. It is important to confine extra cut material in stockpile rather than cast it down hillsides and drainages where it cannot be recovered for rehabilitation.

The amount of level surface required for safely assembling and operating a drilling rig varies with the type of rig, but averages 300 feet by 350 feet. Figure 17 illustrates a typical well location layout. At least 25 feet is normally required to be on an area of cut instead of fill, between the drill point and the outer edge of the drilling platform. This ensures that the foundation of the drilling derrick is on solid ground and prevents it from leaning or toppling due to settling of uncompacted soil.

In addition to the drilling platform, a reserve pit is constructed, usually square or oblong, but sometimes in another shape to accommodate topography. Generally, the reserve pit is 8 to 12 feet deep, but may be deeper to compensate for smaller length and width or deeper drilling depths.

Depending on the relation of the location to natural drainages, it may be necessary to construct water bars or diversions. The area disturbed for construction and the potential for successful revegetation depends largely on the steepness of the slope.

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Usually drilling activities begin within a week or two after the location and access road have been constructed. The drilling rig and associated equipment are moved to the location and erected. Moving a drilling rig requires moving 10 to 25 truck loads (some over legal weight and height) of equipment over public highways and private roads. The derrick when erected is approximately 160 feet high.

Water for drilling is hauled to the rig storage tanks or transported by surface pipeline. Water sources are usually rivers, wells, or reservoirs. Occasionally, water supply wells are drilled on or close to the site. The operator must obtain a permit from the Wyoming State Engineer for the use of surface or subsurface water for drilling. When the Bureau holds the water permits for surface water (stock ponds), we must also approve such use. When drilling commences, and as long as it progresses, water is continually transported to the rig location. Approximately 40,000 barrels or 1,680,000 gallons of water are required to drill an oil or gas well to the depth of 9,000 feet. More water is required if the underground formations are fractured enough to permit water to escape into them (lost circulation zone) (USDI 1981a).

Issuance of Rights-of-Way

Rights-of-way are required for all facilities, tank batteries, pipelines, truck depots, powerlines, and access roads that occupy federally owned land outside the lease or unit boundary. When a third party (someone other than the oil or gas company and the federal government) constructs a facility or installation on or off the lease, a right-of-way is also required. The right-of-way is issued by the Bureau.

DRILLING OPERATIONS

Rotary Drilling

Starting to drill is called "spudding in" the well. Initially drilling usually proceeds rapidly mainly due to the incompetent nature of shallow formations. Drilling is accomplished by rotating special bits under pressure. While drilling, the rig derrick and associated hoisting equipment bear a great majority of the drill string's weight (Figure 18). The weight on the bit itself is generally a small fraction of the total drill string weight. The combination of rotary motion and weight on the bit causes rock to be chipped away at the bottom of the hole. The rotary motion is created by a square or hexagonal rod, called a kelly, which fits through a square or hexagonal hole in a large turntable, called a rotary table. The rotary table sits on the drilling rig floor and as the hole advances, the kelly slides down through it. When the kelly has gone as deep as it can, it is raised, and a piece of drill pipe about 30 feet in length is attached in its place. The drill pipe is then lowered, the kelly is attached to the top of it, and drilling recommences. By adding more and more drill pipe, the hole can steadily penetrate deeper (USDI 1981a).

Drilling mud is circulated through the drill pipe to the bottom of the hole, through the bit, up the bore of the well, through a screen which separates the rock chips, and into holding tanks from which it is pumped back into the well. The mud is maintained at a specific weight and thickness to cool the bit; reduce the drag of the drill pipe on the sides of the well hole, seal off any porous zones, contain formation fluids to prevent a blowout or loss of drilling fluid, and bring the rock chips to the surface for disposal. Various additives are used in maintaining the drill mud at the appropriate viscosity and weight. Some of the additives are caustic, toxic, or acidic, but these hazardous additives are used in relatively small amounts during drilling operations.

Eventually, the bit becomes worn and must be replaced. To change bits, the entire string of drill pipe must be pulled from the

hole, in sections usually about 90 feet long, until the bit is out. The bit is replaced and then the drill string is reassembled and lowered into the hole, section by section, and drilling is started again. The process of removing and reinserting the drilling string uses much of the time required in drilling.

Drilling operations are continuous, 24 hours a day and 7 days a week. The crews usually work three 8-hour shifts or two 12-hour shifts a day. Pickups or cars are used for workers' transportation to and from the sight.

Upon completion of the drilling, the equipment is removed to another location. If oil or gas is not discovered in commercial quantities, the well is considered dry. The operator is then required to follow state and BLM policy procedures for plugging a dry hole. The drill site and access road are rehabilitated in accordance with the stipulations attached to the approval of the well site (USDI 1981a).

Casing

Various types of casing are placed in the drilled hole to enhance hole integrity. Casing is a string of steel pipe which is comprised of many lengths (about 40 feet long) of individual pipe which are "screwed" together. Casing is cemented into the well to protect against fluids or rock entering the well bore.

Surface casing which is properly set and cemented also protects surface aquifers from being contaminated by drilling and production operations. Surface casing should be set to a depth greater than the deepest fresh water aquifer which could reasonably be developed. Fresh water may exist at great depths but these aquifers are not normally considered to be important fresh water sources.

Surface casing is large enough to allow subsequent lengths of smaller casing to be set as the well is drilled deeper. Cement is placed in the annulus of the surface casing from casing shoe to ground level. That is, the entire space between the outside of the casing and the borehole wall is filled.

Generally only the bottom few hundred feet of intermediate or production casing is cemented which often leaves several thousand feet of open hole behind some casing strings. Casing in open hole (uncemented annulus) is not considered adequate to protect zones of fresh water or minerals from contamination. The annulus must be properly filled with cement to provide adequate protection from inter-zonal migration. Production casing or liner is intended to provide a conduit for the production of oil and gas so that little or no product is lost in "up-hole zones."

Currently, the operator is only required to cement off "hydrocarbon bearing zones." Cement is placed across these zones to seal them and to prevent contamination of any water bearing zones or other porous zones by hydrocarbons. Generally, operators define hydrocarbon bearing zones to be those zones which produce enough oil or gas to measure, therefore, some hydrocarbon bearing zones are not cemented.

DEVELOPMENT AND PRODUCTION

Wells are completed and production equipment installed if it is determined that oil or gas is present in commercial quantities. Natural gas of varying qualities is the primary product produced in the assessment area. At present, approximately 65 percent of the producing wells in the area are gas, with the remaining 35 percent producing oil.

Completion of a well calls for the installation of steel casing, which is cemented in, to provide stability and to protect specific underground zones. The casing is perforated into the zone or

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structure containing the oil or gas. The equipment installed on the casing of a producing well consists of various valves and pressure regulators which are used to control the oil or gas flow to production facilities.

Pipeline quality gas at the wellhead requires a minimum of processing equipment. As the quality of gas decreases with the increased presence of water, dissolved solids, or liquid hydrocarbons, the amount of processing equipment increases. Water or liquid hydrocarbons in the gas are removed before the gas is mixed with other gas, usually at the wellhead. If liquid hydrocarbons are present, storage facilities (tank batteries) are required for the liquids until they accumulate in sufficient quantities to be hauled out by large trucks.

Oil wells can be completed as flowing (those wells with sufficient underground pressure to raise the oil to the surface) or if the pressure is inadequate, they are completed with the installation of pumps, usually pumpjacks. Pumpjacks come in a variety of sizes, the larger ones reaching a height of 30 to 40 feet. Pumps are powered by internal combustion engines or electric motors. Fuel for the engines may be casinghead gas or propane.

Wyoming law prohibits the flaring or venting of natural gas. Exceptions allowed by the Wyoming Oil and Gas Commission are: 1) during testing of a new well, or 2) when the amount of gas produced with the oil is so small that pipeline construction is not practical. Otherwise, if a well produces both oil and gas, provisions for shipping the gas must be made before oil production can continue.

The production equipment (heater-treater, holding facility for production water (if any is present), and tank battery) are either placed on a portion of the location (on cut rather than fill) or located a short distance from the wellhead along the access road. Production facility colors are required to be from the standard color chart. The heater-treater and tanks are surrounded by earthen dikes to contain accidental spills. Either all the facilities may be fenced, or only the production water pit may be fenced (USDI 1981a).

Oil and Gas Exploratory Units

Surface use in an oil or gas field may be affected by unitization of the leaseholds. In areas of federally owned minerals, an exploratory unit is formed before a wildcat exploratory well is drilled. The boundary of the unit is based on geologic data. The developers of the unit can enter into an agreement to develop and operate as a unit, without regard to separate lease ownerships. Costs and benefits are allocated according to agreed-upon terms.

Development in a unitized field may proceed more slowly than in a field composed of individual leases; in the former case, all owners within the participating area share in any well's production but in the later, each lessee must drill his own well to obtain production.

Unitization reduces the surface use requirements because all wells are operated as though on a single lease. Duplication of field processing facilities is minimized, because development and operations are planned and conducted by a single operator. Often powerlines are distributed throughout the unit and diesel engines are converted to electric motors. Unitization may also involve wider spacing than usual, resulting in fewer wells. Access roads are usually shorter and better organized (USDI 1981a).

It is the general intent of unitization to pool or unitize the interests in an entire structure or area in order to provide for adequate control of operations so that development and production can proceed in the most efficient and economical manner, and with minimized environmental impact. Accordingly, each proposal to unitize federally supervised leases must be evaluated upon its specific merits. The unit agreement provides for the exploration, development, and

production by a single operator. In effect the unit functions as one very large lease.

The purpose of a unit is to conserve the natural resources of the pool, field, or area involved. The early consolidation of separate exploration and development efforts through unitization of separate leasehold interests eliminates the need (with respect to drainage) to drill protective wells along common boundaries between unitized leases and serves to maximize benefits through a continuing exploration and development program.

There are extensive oil and gas exploration and production activities within the Green River Resource Area. Included within this area are 44 producing oil/gas units totalling 273,620 acres, 3 approved exploratory units (52,990 acres), and 3 proposed (designated) units (45,360 acres) for a total of 371,970 acres as of August 15, 1990. Appendix 7-3 gives relevant information on each unit (Map 83).

New field developments are analyzed in an environmental assessment or EIS after the second or third confirmation well is drilled. The operator should then have an idea of the extent of drilling and disturbance required to extract and produce the oil and gas, once the second or third well is drilled.

Many fields go through several development stages. A field may be considered fully developed and produce for several years; later, a well may be drilled to a deeper pay zone. Discovery of a new pay zone in an existing field is called a pool discovery, as distinguished from a new field discovery. A pool discovery may lead to the drilling of additional wells. Existing wells may also be drilled deeper.

A new stage of field development can lead to changes in locations of roads and facilities. All new construction, reconstruction, or alterations of existing facilities-including roads, dams, pits, flowlines, pipelines, tank batteries, or other production facilities-must be approved by the Bureau.

As the productive life of a field progresses, problems may arise such as erosion, unvegetated areas; washing out of drainage crossings and roads; plugging of culverts, deterioration of cattleguards; accumulation of derelict equipment; construction of unnecessary roads; unauthorized off-road cross-country travel; and improperly placed or unrehabilitated pipelines. The Bureau prepares rehabilitation plans to correct these problems and to return the field surface area to its original productivity. Corrective action will be taken as problems arise. This ongoing restoration will allow total rehabilitation to be more quickly accomplished at the end of a field's productive life (USDI 1981a).

Field Development

The most important factor in further development of an oil or gas field is the quantity of production. Other considerations are whether the field is on a lease basis or unitized, the probability of profitable production, the necessity to protect federal mineral acreage from drainage by off-lease drilling, and the degree to which limits of the field are known.

When an oil or gas discovery is made, a well spacing pattern must be established before development drilling begins. Well spacing is regulated by the Wyoming State Oil and Gas Conservation Commission. Factors considered in the establishment of a spacing pattern include data from the discovery well concerning: porosity, permeability, pressure, composition, and depth of formations in the reservoir; well production rates and type (barrels of oil or cubic feet of gas); and the economic effect of the proposed spacing on recovery. The minimum spacing for oil production on federal leases is 40 acres. Spacing for oil wells usually varies from 40 to 320 acres per well.

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Spacing for gas wells is generally from 160 to 640 acres per well. Spacing requirements can pose problems in selecting an environmentally sound location. Reservoir characteristics and the drive mechanism determine the most efficient spacing to achieve maximum production. If an operator determines that a different spacing is necessary to achieve maximum recovery, the state and federal agencies may grant exceptions to the spacing requirements. Exceptions may also be obtained if the terrain is unsuitable, provided no geologic or legal problems are encountered. The procedures for obtaining approval to drill and for the drilling of development wells are generally the same as those for wildcat (exploration) wells.

As more wells are placed in production, roads are improved by regular maintenance, surfacing with gravel or scoria, and installing drainage crossings. Mineral materials are usually purchased from local contractors and obtained from federal sources. Materials that are obtained from areas of federally owned minerals require a sales contract and are processed through the Resource Area where the materials occur.

Production from several wells on one lease may be carried by pipeline to a central tank battery. Use of a central tank battery depends on whether or not the oil is from the same formation, and whether or not the partners of stockholders are the same. If commercial quantities of gas are produced with the oil, feeder lines are constructed to carry it to transportation lines.

Production

Gas, oil, and water are being produced in the area by means of natural flow and artificial lift (electric pumping units, gas pumping units, and submersible pumping units).

Gas Production: A typical gas well location would consist of a wellhead, methanol injection equipment (to keep production and surface lines from freezing), a separator (which separates gas, oil, and water), a dehydrator (uses heat and glycol or CaCl to extract any water remaining with the gas), and an orifice meter. An intermitter is sometimes used to either shut-in the well to build up pressure or to blow the well down if it is being loaded with fluid. If the gas well is producing some oil or condensate, oil tanks are used to store the oil and condensate until it is sold via truck or pipeline.

Gas which occurs with oil is separated by venting it out the top of the tank battery and into feeder lines leading to transportation lines. If enough casinghead gas is separated to make it economical for marketing, a plant may be constructed to process the gas, or a pipeline may be constructed to carry the product to an existing plant. If the volume of casinghead gas is insufficient to warrant treatment in a gas plant, it is usually used as fuel for pump engines in the field or as heating fuel for the heater-treaters. Gas is flared or vented into the atmosphere if it exceeds the fuel requirements on the lease but is not of commercial quantities.

Oil Production: In the Resource Area, oil is usually produced using artificial lift methods (pump units). Generally, production from a number of wells is treated at a central tank battery. Due to the nature of this oil, adequate separation of oil and water is only obtained through successive applications of heat. The fluid stream arrives at a separator point where the flash gas is taken off and in most cases, this flash gas is used for lease operations. The remainder of the flash gas is either compressed and sold or flared. Flash gas is defined as solution gas liberated from the oil due to expansion. Water and oil are also being separated at this point. The oil is dumped in storage tanks with the water being sent to a disposal facility. If the water content of the oil is too high due to emulsion, then the oil is recirculated back to the separator, where heat is applied again, with the process continuing until the oil is clean. Two main methods of

oil measurement in the area are utilized. These are the lease automatic custody transfer meters and tank gauging. Measurement is required by 43 CFR 3162.7-2 and Onshore Order No. 4 to ensure proper and full payment of federal royalty.

Operators employ various energy sources and techniques to produce oil and gas economically. Some of the larger units are electronically controlled through a central computer facility. Pump jacks are run by electricity or gas while solar power units are employed by some to assist in instrumentation. Compressors are sometimes required to produce wells and meet pipeline pressure.

Water Production: Associated water produced with the oil or gas is disposed by trucking the water to a Department of Environmental Quality authorized disposal pit, by placing the water in lined or unlined pits, or through subsurface injection. The quality of the water often dictates the appropriate disposal method. The produced water is also sometimes used in enhanced recovery projects.

Production Problems: Weather extremes pose problems for producers by causing roads to become impassable, equipment to malfunction, and freeze-up of flowlines, separators, and tanks. Other problems producers face in the area are: H₂S, CO₂, paraffin, corrosion, electrolysis, and burst flowlines.

Secondary and Enhanced Oil Recovery

An oil reservoir typically contains oil, gas, and water trapped within fine rock pores under tremendous pressures. Because of the pressure, much or all of the gas is dissolved in the oil. "Primary drive" is by the expansion of pressurized water and gas in solution which forces oil out of the pores into the well and up to the surface. Oil flowing out of the rock drains energy from the formation; pressure in the reservoir begins slowly to decline; primary drive diminishes, and the production rate falls. As reservoir pressures continue to drop, gas in the oil escapes, forming bubbles in the rock pores. This further retards the flow of oil and, in time, flow all but ceases. At this point, as much as 80 percent of the original oil may still remain in the reservoir.

To keep oil flowing, pressure is required. Pumps may be used to lift oil to the surface. Currently, in the United States, these normal methods of oil recovery account for less than half of the current oil production. The rest is produced using secondary and enhanced recovery techniques. These techniques increase recovery of oil above that attainable by normal recovery.

There are two basic secondary recovery methods in use: 1) water flooding and 2) displacement by gas. The most important secondary recovery method in use is water flooding. Water flooding is the process of injecting large volumes of water into oil reservoirs where primary recovery has fallen or is expected to be low.

The process of injecting gas into the producing zone of a well is another less used secondary recovery technique. Historically, produced gas was considered a wasted product and it was flared (burned) at the point of production. Later, it was recognized that the energy could be conserved and the recovery of oil increased if the produced gas was re-injected into the producing zone. This increased production was achieved by: 1) maintaining reservoir pressure by injecting the gas into the existing gas cap, and 2) by injecting the gas directly into the oil saturated zone, creating an immiscible gas drive which displaced the oil.

In the Green River Resource Area, the East LaBarge Unit (Ts. 26-27 N., R. 112 W.) is the only field where water injection only has been used. In this unit, water was injected into the Fort Union (Almy) Formation to increase oil production.

Gas injection as a secondary recovery technique is presently being used in the Henry Unit (Ts. 13-14 N., R. 113 W.) and the Brady Deep Unit (T. 16 N., R. 101 W. and T. 17 N., R. 100 W.). In these units, gas has been injected into the producing formation to maintain pressure and allow increased oil production. In the Henry Unit, injection has been into the "Dakota Formation," while in the Brady Deep Unit it has been injected into the Tensleep (Weber) Sandstone.

Two other producing units in the Resource Area have been produced with a combination of water and gas injection methods. The Monell (T. 18 N., Rs. 98-99 W.) and Arch (T. 19 N., Rs. 98-99 W.) Units produce oil from the Almond Formation.

The term "enhanced recovery" is used to describe recovery processes other than the more traditional secondary recovery procedures. These enhanced recovery methods include thermal, chemical, and miscible (mixable) CO₂ drives.

Some reservoirs contain large quantities of heavy oil that cannot be produced using normal, or secondary methods. In thermal drive processes, heat is introduced from the surface or developed in place in the subsurface reservoir. In the thermal drive process, hot water or steam is injected. In the In-Situ process, spontaneous or induced ignition of in-place hydrocarbons are created in the presence of injected air to develop an In-Situ fire front. Raising the temperature of heavy oil causes it to become less viscous and more mobile, so that it may be produced through gravity forces or preferably by displacement.

There are several chemical drive techniques currently in use, including 1) polymer flooding, 2) caustic flooding, and 3) surfactant-polymer injection. These methods attempt to change reservoir conditions to allow additional oil to be recovered.

In the recent past carbon dioxide, which is miscible with oil, has been used to enhance oil recovery. Carbon dioxide is able to mix with the oil in a reservoir allowing for greater displacement of oil.

There are no enhanced recovery projects active within the Resource Area at this time. Chemical or CO₂ drives are likely to be tried in some Resource Area fields in the future. Thermal recovery techniques are not likely to be tried in the Resource Area because the oils present here are not heavy oils.

Plugging and Abandonment of Wells

The purpose of plugging and abandoning a well is to prevent fluid migration between zones, to protect minerals from damage, and to restore the surface area. Each well has to be handled individually due to a combination of factors, including geology, well design limitations, and specific rehabilitation concerns. Therefore, only minimum requirements can be established, then modified for the individual well.

The first step in the plugging process is the filing of the Notice of Intent to Abandon. This will be reviewed by both the Surface Management Agency and this Resource Area. The Notice must be filed and approved prior to plugging a past producer. Verbal plugging instructions can be given for plugging current drilling operations, but a Notice must be filed after the work is completed. If usable fresh water was encountered while the well was being drilled, the Surface Management Agency will be allowed, if interested, to assume future responsibility for the well and the operator will be reimbursed for the attendant costs.

The operator's plan for securing the hole is reviewed. The minimum requirements as stated in Onshore Order No. 2, are as follows: In open hole situations, cement plugs must extend at least 50 feet above and below zones with fluid which has the potential to

migrate, zones of lost circulation (this type of zone may require an alternate method to isolate), and zones of potentially valuable minerals. Thick zones may be isolated using 100-foot plugs across the top and bottom of the zone. In the absence of productive zones and minerals, long sections of open hole may be plugged with 150-foot plugs placed every 3,000 feet. In cased holes, cement plugs must be placed opposite perforations and extending 50 feet above and below except where limited by plug back depth.

The cement plugs could be replaced with a bridge plug, if the bridge plug is set as close as practical above the open perforations; if the perforations are isolated from any open hole below; and if the perforations are squeezed with cement. The bridge plug must be capped (placed through tubing) with a minimum of 25 sacks of cement and not less than 50 feet of fill must be used. If the cap is placed using a dump bailer, a minimum of 35 feet of fill must be used, no sack minimum. A dump bailer is a wireline apparatus useful for cement placement because tubing does not have to be run and cement contamination is minimized. This method employs the use of a container of cement which is lowered into the hole and "dumped."

In the event that the casing has been cut and recovered, plug is to be placed 50 feet above and below the cut off point. Annular space that extends to the surface will not be left open to the drilled hole below, as 100 feet of cement must be placed in the annulars.

If the integrity of a plug is questionable or the position extremely vital, it can be tested with pressure or by tagging the plug with the drill string. Tagging the plug means running pipe into the hole until the plug is encountered and placing a certain amount of weight on the plug to verify its placement and competency. The surface plug must be a minimum of 100 feet and no less than 25 sacks of cement. The interval between plugs must be filled with mud, 9 pounds per gallon minimum.

After the casing has been cut off below the ground level, any void in the top of the casing must be filled. If a metal plate is welded over the top of the casing, weep holes should be drilled in the plate to vent the annular spaces.

A permanent abandonment marker is required on all wells unless otherwise requested by the surface management agency. This marker pipe is usually at least 4 inches in diameter, 10 feet long, 4 feet above the ground, and embedded in cement. The pipe must be capped with the well identity and location permanently inscribed.

The surface management agency is responsible for establishing and approving methods for surface rehabilitation and determining when this rehabilitation has been satisfactorily accomplished. At this point, a Subsequent Report of Abandonment can be approved. To July 1 of 1990, 1,328 wells had been drilled and abandoned in the Resource Area (Map 84).

SUBSURFACE PRACTICES

The success (or failure) of subsurface operations cannot be determined by simply "looking down the hole," but instead, must be judged from indirect evidence such as downhole logs, drilling data, completion data, and many other data sets. Competent professionals are required to determine the character and adequacy of "downhole" operations. A downhole failure may take many years before the ramifications become apparent at the surface; by that time, the situation may be irreversible.

Prior to 1982, the USGS was responsible for subsurface management and initiated many standards and policies for oil and gas development on federal mineral lands. Since 1982, the fluid minerals branch of the Bureau has been responsible for subsurface management.

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Casing and Cementing

Early wells had just enough casing to support a wellhead and the remainder of the hole was generally open. Improper casing and cementing allows communication between zones of hydrocarbons, salt water, and fresh water.

Most standards are difficult to set in that cost is a factor and any job can be "overdesigned." Many "gray areas" exist where experts argue the merits of one design over another. One of these controversial design areas is hole size relative to casing size. It is questionable if a proper cement bond can be obtained under these circumstances. Hole deviation, depth, bore hole environment, placement of centralizers (if any), and a myriad of other factors affect the integrity of the casing and cement job. One of the most important factors influencing a "cement job" is the pumping method. Cement can be pumped and placed in any of three flow regimes: plug flow, laminar flow, and turbulent flow. The flow regime is a function of the velocity at which the slurry flows. Plug flow has a very slow velocity and takes the most time to pump. Turbulent flow requires high hydraulic horsepower and some service companies cannot pump cement in turbulent flow under certain conditions.

Blowout Prevention

In the early days of drilling, no blowout prevention equipment was used. As a result, several spectacular blowouts occurred in the northwest portion of the resource area near LaBarge.

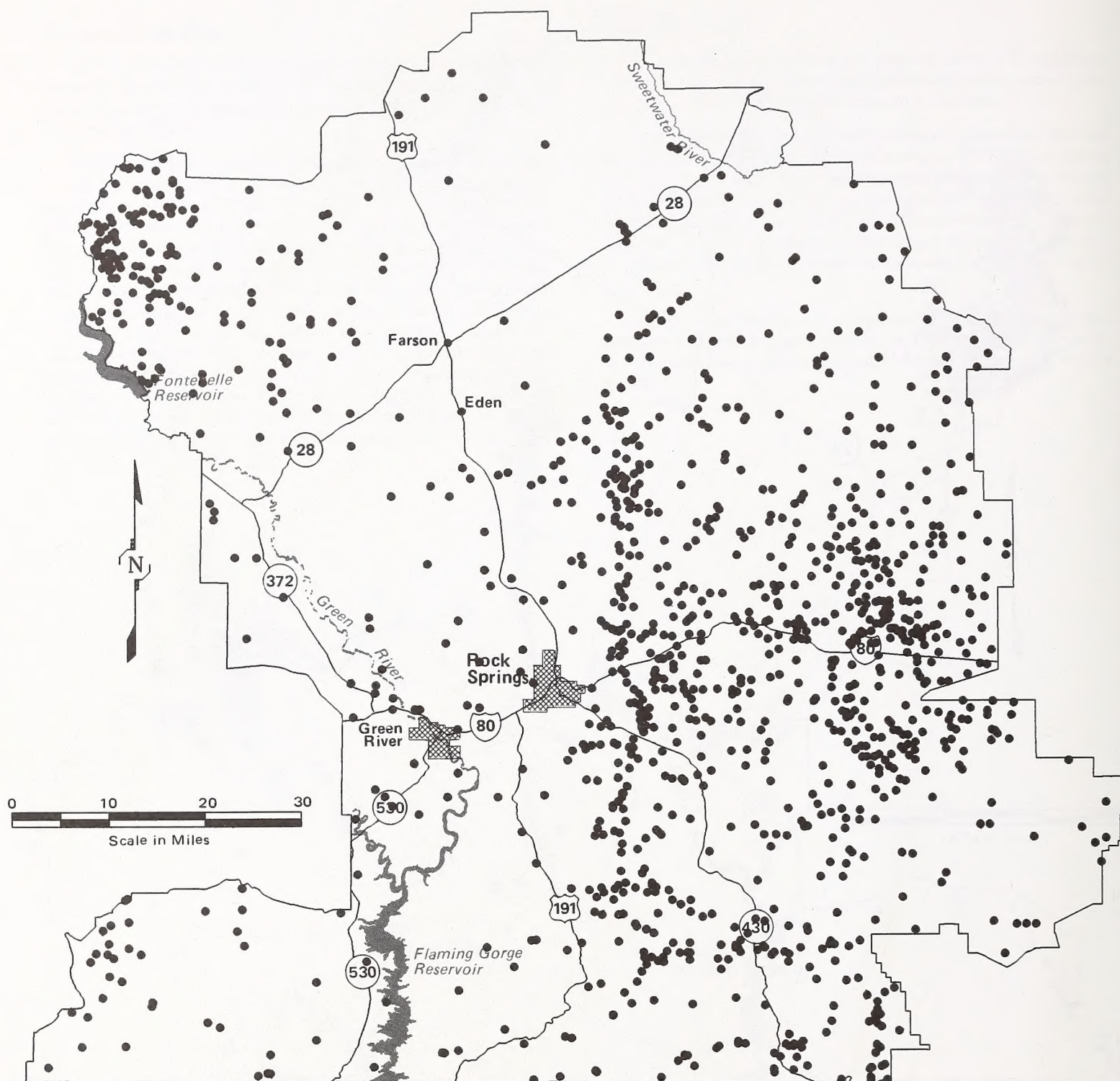
Today, special attention is paid to blowout prevention; much of the equipment associated with drilling rigs is for handling excess pressure at the surface. Blowout prevention equipment is tested and inspected regularly by both the rig personnel and the inspection and enforcement branch of the BLM. Minimum standards and enforcement provisions are currently in effect as part of Onshore Order No. 2. Well-trained rig site personnel are a necessity for proper blowout prevention.

Casing setting depth is also important with regards to blowout prevention. The casing shoe must be set in rock which is competent to withstand the maximum anticipated pressure to which it will be exposed.



- Gas Wells
- Oil Wells
- ◆ Injection Wells

Map 83
Existing Oil and Gas Wells
 Green River Planning Area



● Plugged and Abandoned Wells

Map 84
Abandoned Oil and Gas Wells
 Green River Planning Area

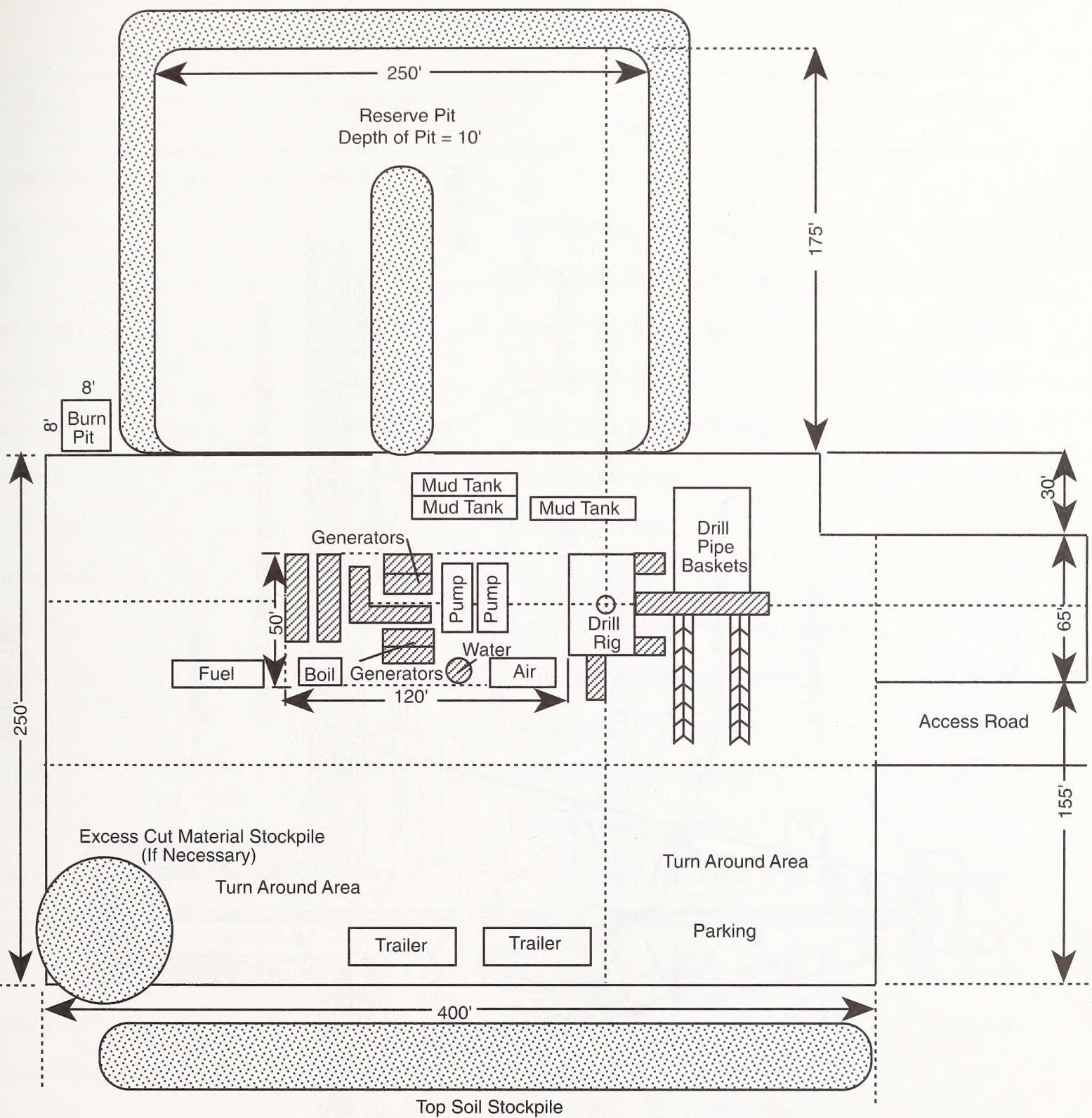


Figure 17
Location Layout for a Well 9,000 to 15,000 Feet Deep
Green River Planning Area

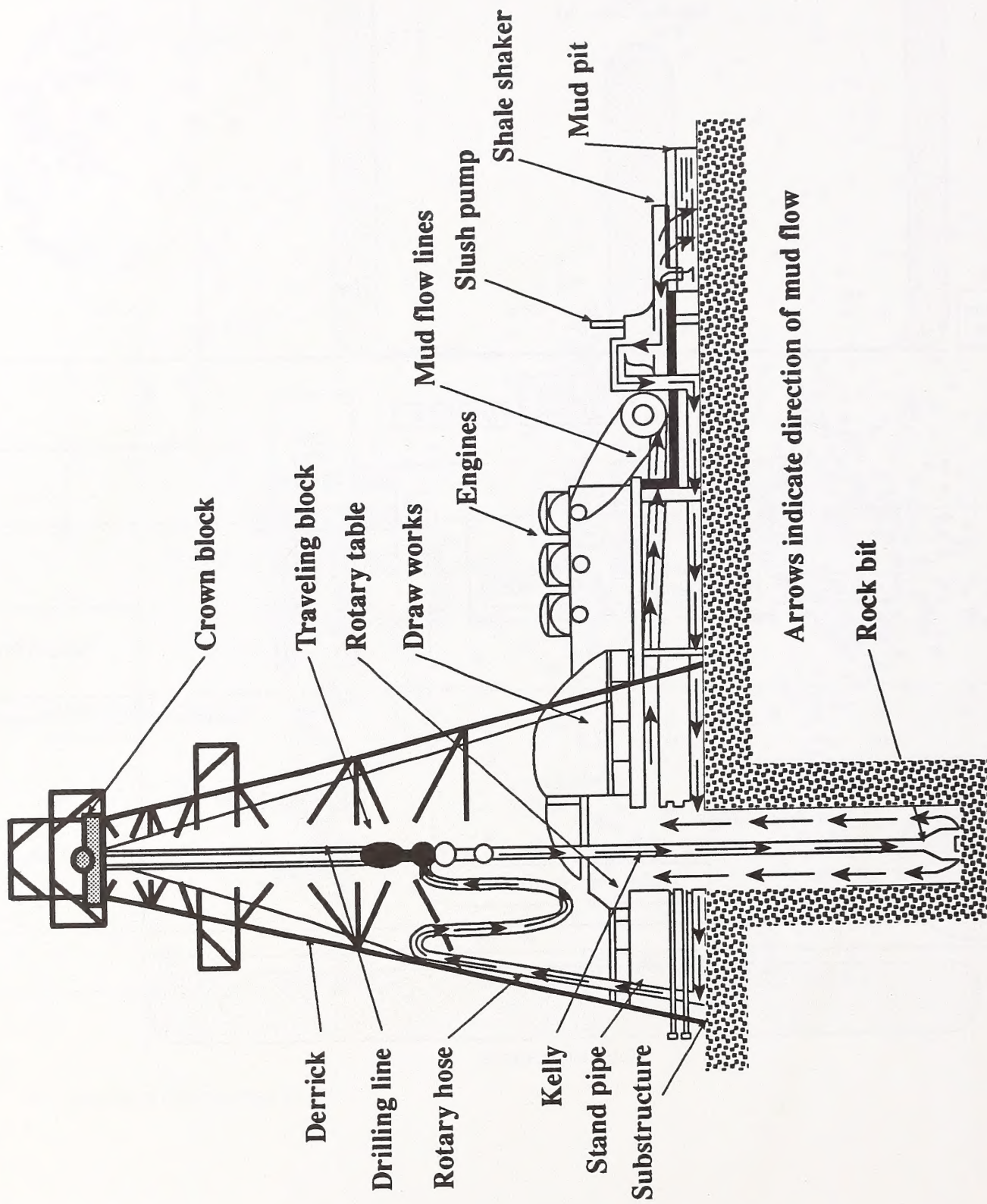


Figure 18
Diagram of Rotary Rig
 Green River Planning Area

APPENDIX 7-3

OIL AND GAS UNITS

Name of Unit	Approval Date	Unit Operator	Unit Area (acres)
PRODUCING UNITS (as of August 15, 1990)			
Adobe Town	06-23-78	Koch Exploration Company	680.00
Arch	02-23-78	Union Pacific Resources Company	12,565.37
Bitter Creek II	12-12-73	Amoco Production Company	360.00
Blue Forest	12-13-82	Presidio Exploration Inc.	9,716.53
Brady (Deep)	10-18-72	Union Pacific Resources Company	5,975.61
Buccaneer	12-16-80	Apache Corporation	680.00
Butcher Knife Spring	07-20-71	Wexpro Company	5,962.34
Canyon Creek Dome	12-18-37	Wexpro Company	14,505.39
Delaney Rim	03-17-75	Texas Exploration & Production Company	2,300.54
Desert Springs	10-30-57	Union Pacific Resources Company	14,397.03
Dines	04-11-77	Levinson Partners Corporation	640.00
East LaBarge	04-06-51	Enron Oil and Gas Company	5,581.15
Emigrant Trail	08-30-79	Amoco Production Company	600.00
Figure Four Canyon	06-08-59	Enron Oil and Gas Company	1,280.00
Fontenelle II	07-30-74	PG&E Resources Company	13,061.76
Henry	04-30-80	Washington Energy Exploration, Inc.	5,954.41
Higgins	03-22-74	Union Pacific Resources Company	4,840.00
Jackknife Spring	09-02-60	Wexpro Company	1,490.11
Jefferson	07-15-82	Geodyne Resources, Inc.	600.00
Joyce Creek	04-24-62	Kaiser-Francis Oil Company	1,284.43
Kinney	06-05-73	Wexpro Company	2,471.21
Leucite Hill	07-25-69	Wexpro Company	1,280.00
Little Monument II	01-26-79	Presidio Exploration Inc.	2,680.00
Luckey Ditch	11-16-84	Oryx Energy Company	7,370.47

APPENDIX 7-3

OIL AND GAS UNITS (Continued)

Name of Unit	Approval Date	Unit Operator	Unit Area (acres)
PRODUCING UNITS (as of August 15, 1990) (Continued)			
Monell	11-25-64	Union Pacific Resources Company	10,120.27
Monument Butte IV	03-27-78	Fuel Resources Development Company	7,724.15
Nitchie Gulch	09-14-62	Pacific Enterprises Oil	5,960.24
Pine Canyon	12-19-63	TEX/CON Oil and Gas Company	1,400.43
Playa	03-22-60	Union Pacific Resources Company	4,105.33
Pretty Water Creek	03-26-81	Great Western Drilling Company	920.00
Raptor	05-31-85	Amoco Production Company	3,096.08
Rim Rock	02-19-80	Winchester Development Corporation	640.00
Salt Wells	06-21-49	Marathon Oil Company	668.92
South Baxter Basin	11-01-42	Wexpro Company	38,769.69
South Henry	09-04-84	Conoco, Incorporation	1,160.57
Stage Stop	08-24-65	Union Pacific Resources Company	640.00
Stead Canyon	03-29-77	Enron Oil and Gas Company	1,362.68
Steamboat Mountain	04-18-78	Winchester Development Corporation	635.44
Storm Shelter	01-23-75	Presidio Exploration	2,880.00
Table Rock	09-19-45	Texaco, Incorporation	12,691.50
Taylor Ranch	05-08-85	Anadarko Petroleum Corporation	1,840.00
Trail	05-14-58	Wexpro Company	6,755.10
Treasure	06-20-79	Winchester Development Corporation	703.18
West Swan	11-28-83	Texaco, Exploration and Production, Inc.	874.02
TOTAL			218,349.93

APPENDIX 7-3**OIL AND GAS UNITS (Continued)**

Name of Unit	Approval Date	Unit Operator	Unit Area (acres)
EXPLORATORY UNITS			
Bluewater	11-19-91	Union Pacific Resources Company	10,237.02
Glasnost	10-28-91	Union Pacific Resources	6,915.83
Rattlesnake	01-31-91	Presidio Exploration, Inc.	2,240.00
Willow Reservoir	09-05091	Amoco Production Company	10,419.69
TOTAL			29,902.54
PROPOSED UNITS			
East Wind		Arco Oil and Gas Company	5,503.78
Eighteen Mile		Presidio Exploration Incorporation	26,341.78
Jeep Trail		Celsius Energy Company	5,760.00
Manila		Exxon Corp.	23,120.40
Rita		Alpar Resources, Inc.	23,229.56
Timber Rock		Presido Exploration, Inc.	26,877.90
West Wind		Arco Oil and Gas Company	22,898.63
Windbreak		Arco Oil and Gas Company	8,978.80
TOTAL			142,710.85

PRODUCTION FIGURES FOR OIL AND GAS FIELDS AND UNITS¹

APPENDIX 7-4

Field or Unit Name	County	First Discovered	Location Twp. Rge.	Number of Producing Wells	December 1989		Cumulative 1989 Oil-BBLs Gas-MCF	Total Cumulative Oil-BBLs Gas-MCF	Remarks ²
					Production Oil-BBLs Gas-MCF				
Adobe Town	Sweetwater	1981	15N-97W	0	0 0		0 21,131		OIL-SI GAS-1986
Airport	Sweetwater	1972	19N-103W	3	0 35,282		0 215,404	83 2,284,422	OIL GAS
Alkaline Creek	Sweetwater	1977	16N-98W	2	0 0		25 8,754	5,193 525,815	OIL GAS
Antelope	Sweetwater	1970	17N-99W	6	0 56,531		27 590,368	25,987 29,437,989	OIL GAS
Arch	Sweetwater	1959	19N-98W	17	4,703 91,729		57,104 654,645	18,362,493 83,542,858	OIL GAS
Bartlett	Sweetwater	1973	19N-102W	0	0 0		0 0	0 1,177,140	OIL-ABD GAS-1981
Bastard Butte	Sweetwater	1978	25N-97W	0	0 0		0 0	6,887 6,078	OIL-TA GAS-1982
Baxter Basin Middle	Sweetwater	1938	18N-103W	4	0 20,881		0 74,309	0 16,021,472	OIL GAS
Baxter Basin North	Sweetwater	1926	20N-103W	12	88 67,345		1,028 280,843	68,037 82,759,919	OIL GAS
Baxter Basin South	Sweetwater	1922	16N-104W	18	0 226,034		0 989,765	5,934 133,385,716	OIL GAS
Baxter Siding	Sweetwater	1980	19N-103W	0	0 0		0 0	13 74,550	OIL-ABD GAS-1987
Bird Canyon	Sublette- Sweetwater-Lincoln	1971	27N-112W	80	768 503,673		8,758 5,674,626	111,748 49,236,226	OIL GAS
Bitter Creek	Sweetwater	1962	16N-99W	5	19 7,671		219 76,431	3,452 968,132	OIL GAS
Black Butte Creek	Sweetwater	1959	19N-102W	1	0 5,407		0 48,495	4 939,386	OIL GAS

**PRODUCTION FIGURES FOR OIL AND GAS
FIELDS AND UNITS¹ (Continued)**

Field or Unit Name	County	First Discovered	Location Twp. Rge.	Number of Producing Wells	December 1989		Cumulative 1989 Oil-BBLs Gas-MCF	Total Cumulative Oil-BBLs Gas-MCF	Remarks ²
					Production Oil-BBLs Gas-MCF				
Blue Forest	Sweetwater	1983	24N-110W	17	49,843 1,586,969		752,377 21,017,281	1,527,881 39,797,884	OIL GAS
Brady	Sweetwater	1973	16N-101W	23	152,773 1,975,698		1,863,767 22,594,107	57,091,795 308,979,125	OIL GAS
Buccaneer	Sweetwater	1982	26N-102W	0	0 0		0 0	0 0	OIL-SI GAS-1982
Buckhorn Canyon	Sweetwater	1979	25N-111W	1	0 3,609		36 36,735	677 98,514	OIL GAS
Buster Basin	Sweetwater	1974	12N-107W	0	0 0		0 0	1,377 3,622	OIL-ABD GAS-1985
Butcher Knife Springs	Uinta	1971	15N-112W	3	1,483 247,699		11,256 1,675,647	456,183 15,788,824	OIL GAS
CCC Road	Sublette	1984	27N-110W	0	0 0		0 0	0 0	OIL-PA GAS-1989
Camel Rock	Sweetwater	1979	18N-102W	0	0 0		0 0	26,643 1,720,635	OIL-ABD GAS-1983
Canyon Creek	Sweetwater	1941	12 & 13N 100 & 101W	34	3,580 663,523		22,432 3,794,800	1,232,257 242,210,001	OIL GAS
Chimney Rock	Sweetwater	1958	18N-102W	0	0 0		0 0	0 0	OIL-ABD GAS 1974
Crooked Canyon	Sweetwater	1976	21N-103W	14	18 69,760		205 759,225	6,257 10,807,702	OIL GAS
Deadman Wash	Sweetwater	1973	20N-101W	3	0 11,832		4 139,247	4,319 20,616,980	OIL GAS
Delaney Rim	Sweetwater	1976	18N-97&98W	9	2,727 24,124		42,008 284,097	862,506 5,027,058	OIL GAS
Desert Springs	Sweetwater	1958	20 & 21N 97 & 98W	30	1,092 609,559		14,646 6,254,106	2,017,402 261,097,680	OIL GAS

PRODUCTION FIGURES FOR OIL AND GAS FIELDS AND UNITS' (Continued)

APPENDIX 7-4

Field or Unit Name	County	First Discovered	Location Twp. Rge.	Number of Producing Wells	December 1989 Production Oil-BBLs Gas-MCF	Cumulative 1989 Oil-BBLs Gas-MCF	Total Cumulative Oil-BBLs Gas-MCF	Remarks ²
Desert Springs West	Sweetwater	1959	19 & 20N-99W	11	1,544 9,326	21,570 126,211	1,338,525 33,837,194	OIL GAS
Dines	Sweetwater	1986	20N-105W	1	0 501	0 5,742	30 44,127	OIL GAS
Dog Spring	Uinta	1986	15N-113W	1	2 6,542	67 39,528	2,796 344,645	OIL GAS
Emigrant Springs	Lincoln- Sweetwater	1958	23N-112W	5	414 26,857	3,049 148,538	37,948 2,606,569	OIL GAS
Emigrant Trail	Sweetwater	1981	17N-95W	2	0 13	1,022 28,603	21,795 488,036	OIL GAS
Essex Mountain	Sweetwater	1981	24N-104W	0	0 0	0 0	0 0	OIL-ABD GAS-1984
Figure Four Canyon	Sublette	1959	27N-112W	12	54 188,130	783 2,209,257	2,324 9,106,890	OIL GAS
Fontenelle	Lincoln- Sweetwater	1974	26N-112W	83	368 442,341	5,827 5,498,996	92,456 54,783,476	OIL GAS
Four Mile Gulch	Sweetwater	1988	23N-110W	0	0 0	0 0	24 0	OIL-SI GAS-1989
Freighter Gap	Sweetwater	1981	24N-102W	0	0 0	0 0	4,002 163,502	OIL GAS
Gap Road	Sweetwater	1983	15N-99W	0	0 0	0 0	1 20,799	OIL-SI GAS-1989
Golden Wall	Sweetwater	1974	18N-101W	0	0 0	0 0	120 2,906	OIL-SI GAS-1975
Green River Bluffs	Sublette	1959	27N-110W	0	0 0	0 0	8 0	OIL-ABD GAS-1967
Hallville	Sweetwater	1962	19N-100W	2	0 0	276 0	33,980 8,385	OIL GAS
Hansen Draw	Sweetwater	1977	17N-96W	0	0 0	0 0	151 96,233	OIL-SI GAS

**PRODUCTION FIGURES FOR OIL AND GAS
FIELDS AND UNITS¹ (Continued)**

Field or Unit Name	County	First Discovered	Location Twp. Rge.	Number of Producing Wells	December 1989 Production Oil-BBLs Gas-MCF	Cumulative 1989 Oil-BBLs Gas-MCF	Total Cumulative Oil-BBLs Gas-MCF	Remarks ²
Hay Reservoir	Sweetwater	1977	24N-97W	27	9,505 515,760	112,679 6,083,796	1,062,107 51,578,644	OIL GAS
Henry	Uinta	1980	13N-113W	11	19,706 195,491	252,946 2,480,408	2,723,355 28,879,686	OIL GAS
Henry South	Uinta	1984	13N-113W	2	3,316 17,392	41,115 213,308	289,240 1,305,797	OIL GAS
Hiawatha	Sweetwater	1928	12N-99W	17	99 231,176	706 1,331,119	96,437 80,765,416	OIL GAS
Higgins	Sweetwater	1969	17N-99W	7	50 182,772	232 2,694,316	53,363 70,444,204	OIL GAS
Horn Canyon	Sweetwater	1976	24N-100W	1	6 4,641	304 64,604	1,059 292,036	OIL GAS
Iron Pipe	Sweetwater	1978	16N-98W	1	0 0	218 28,772	2,296 224,708	OIL GAS
James Creek	Sweetwater	1984	15N-103W	1	0 5,278	23 103,022	1,037 596,460	OIL GAS
Jefferson	Sublette	1982	27N-110W	1	0 0	0 14,761	0 200,197	OIL GAS
Jonah	Sublette	1977	28N-108W	0	0 0	0 0	441 20,991	OIL GAS
Joyce Creek	Sweetwater	1958	15N-103W	5	0 4,080	0 20,693	190,733 11,486,600	OIL GAS
Kinney	Sweetwater	1959	13N-99W	8	70 144,701	229 719,688	22,545 38,198,077	OIL GAS
Kinney Rim	Sweetwater	1983	14N-100W	0	0 0	0 0	0 0	OIL-SI GAS-1981
LaBarge	Sublette-Lincoln	1925	26 & 27N-113W	274	24,507 2,859,030	283,387 25,675,311	24,361,527 296,286,659	OIL GAS

**PRODUCTION FIGURES FOR OIL AND GAS
FIELDS AND UNITS¹ (Continued)**

APPENDIX 7-4

Field or Unit Name	County	First Discovered	Location Twp. Rge.	Number of Producing Wells	December 1989 Production Oil-BBLs Gas-MCF	Cumulative 1989 Oil-BBLs Gas-MCF	Total Cumulative Oil-BBLs Gas-MCF	Remarks ²
Laney Wash	Sweetwater	1979	17N-97W	2	29 1,576	742 20,628	3,631 146,248	OIL GAS-1977
Leo	Sweetwater	1975	15N-111W	0	0 0	0 0	3,223 15,057	OIL-ABD GAS-1977
Leucite Hills	Sweetwater	1969	22N-103W	8	0 73,785	690 585,049	1,398 5,381,052	OIL GAS
Lincoln Road	Sweetwater- Lincoln	1977	24N-111W	22	29,887 948,282	485,584 12,311,200	1,133,198 36,442,298	OIL GAS
Little Monument	Sweetwater- Lincoln	1983	25N-111W	14	18 64,294	140 815,750	2,554 5,254,902	OIL GAS
Little Worm Creek	Sweetwater	1957	15N-104W	1	0 0	0 179	16,561 3,481,879	OIL GAS
Lost Valley	Sweetwater	1980	25N-98W	0	0 0	0 0	0 4,668	OIL-ABD GAS-1985
Lucky Ditch	Uinta	1985	12N-114W	10	78,359 427,867	1,070,235 5,681,731	4,981,609 23,158,176	OIL GAS
Masterson	Sweetwater	1970	20N-102W	2	0 8,212	0 64,401	0 1,213,262	OIL GAS
Megas	Sweetwater	1979	22N-106W	0	0 0	0 0	0 145,428	OIL-SI GAS-1989
Mesa	Sweetwater	1977	24N-111W	1	0 0	0 848	2,670 679,517	OIL GAS
Middle Mountain	Sweetwater	1952	12N-103W	1	0 1,165	138 7,885	57,470 9,072,186	OIL GAS
Monument Butte	Sweetwater	1978	26N-110W	9	7,547 365,271	108,225 4,604,501	924,117 19,378,519	OIL GAS
Mud Lake	Sweetwater	1959	23N-98W	0	0 0	0 0	0 0	OIL-ABD GAS-1960
N. T.	Sweetwater	1982	15N-96W	0	0 0	0 0	0 0	OIL-SI GAS-1989

**PRODUCTION FIGURES FOR OIL AND GAS
FIELDS AND UNITS' (Continued)**

Field or Unit Name	County	First Discovered	Location Twp. Rge.	Number of Producing Wells	December 1989		Cumulative 1989 Oil-BBLs Gas-MCF	Total Cumulative Oil-BBLs Gas-MCF	Remarks ²
					Production Oil-BBLs Gas-MCF	Production Oil-BBLs Gas-MCF			
Neff	Sweetwater	1968	18N-98W	0	0	0	14	14	OIL-ABD GAS-1976
Nitche Gulch	Sweetwater	1962	23N-103W	46	621 891,810	5,461 9,580,768	183,560 98,288,716	183,560 98,288,716	OIL GAS
Patrick Draw	Sweetwater	1959	18N-99 & 100W	43	12,626 246,270	161,241 2,853,323	42,239,718 149,168,106	42,239,718 149,168,106	OIL GAS
Pine Canyon	Sweetwater	1964	23N-103W	23	1,804 462,830	12,730 3,672,075	64,433 22,773,526	64,433 22,773,526	OIL GAS
Playa	Sweetwater	1958	20 & 21N 98 & 99W	0	0	0	435,891 40,862,546	435,891 40,862,546	OIL-SI GAS
Point of Rocks	Sweetwater	1963	20N-101W	3	0 15,501	0 75,774	117,392 3,709,451	117,392 3,709,451	OIL GAS
Potter Mountain	Sweetwater	1956	14N-103W	5	0 5,584	0 53,816	1,073 815,971	1,073 815,971	OIL GAS
Pretty Water Creek	Sweetwater	1962	15N-104W	0	0	0	1,461 964,338	1,461 964,338	OIL-SI GAS-1980
Raptor	Lincoln	1968	24N-112W	0	0	0	0	0	OIL-SI GAS
Red Hill	Sweetwater	1962	19N-100W	0	0	0	0	0	OIL-ABD GAS-1973
Marianne	Sweetwater	1979	20N-103W	7	0 64,686	0 636,124	0 4,776,692	0 4,776,692	OIL GAS
Massacre Hills	Sweetwater	1962	16 & 17N 107, 108, 109W	0	0	0	759	759	OIL-ABD GAS-1963
Reiser Canyon	Sweetwater	1979	19N-106W	0	0	0	0	0	OIL-ABD GAS-1981
Rim Rock	Sweetwater	1980	24N-103W	1	0	27	563	563	OIL
Robin	Sweetwater	1971	19N-97W	3	3 4,265	2,622 27,567	247,648 718,658	247,648 718,658	OIL GAS

PRODUCTION FIGURES FOR OIL AND GAS FIELDS AND UNITS¹ (Continued)

APPENDIX 7-4

Field or Unit Name	County	First Discovered	Location Twp. Rge.	Number of Producing Wells	December 1989		Cumulative 1989 Oil-BBLs Gas-MCF	Total Cumulative Oil-BBLs Gas-MCF	Remarks ²
					Production Oil-BBLs Gas-MCF				
Roser	Sweetwater	1971	21N-100W	0	0 0		0 0	0 0	OIL-TA GAS-1977
Russ	Sublette	1967	27N-111W	0	0 0		0 0	12,332 41,042	OIL-SI GAS-1983
Saddle Bag	Sweetwater	1981	24N-100W	0	0 0		0 0	0 0	OIL-ABD GAS-1982
Salt Wells	Sweetwater	1949	14N-103W	3	0 31,461		0 210,379	316,578 18,590,646	OIL GAS
Sand Butte	Sweetwater	1960	17N-99W	2	0 9,259		0 102,687	0 2,558,365	OIL GAS
Sheep Camp	Sweetwater	1976	22N-97W	3	0 3,474		57 58,568	11,291 666,293	OIL GAS
Simpson Gulch	Sweetwater	1977	25N-107W	0	0 0		0 0	366 0	OIL-ABD GAS-1983
Sixmile Spring	Sweetwater	1962	18N-104W	6	8 24,992		38 78,786	842 2,429,837	OIL GAS
Smokey	Sweetwater	1979	15N-99W	0	0 0		0 0	0 0	OIL-SI GAS-1979
Spur Creek	Lincoln	1969	26N-112W	0	0 0		0 0	22,221 246,858	OIL-SI GAS
Stage Stop	Sweetwater	1966	18N-99W	13	1,865 22,238		23,901 264,602	787,698 10,304,852	OIL GAS
Stead Canyon	Lincoln-Sublette	1964	26N-112W	12	151 42,128		913 389,719	210,182 2,849,815	OIL GAS
Steamboat Mountain	Sweetwater	1978	23N-102W	1	0 0		0 415	540 467,192	OIL GAS
Storm Shelter	Sweetwater- Lincoln	1975	23N-111W	14	177 11,190		8,468 186,424	217,415 8,886,952	OIL GAS
Sugarloaf Butte	Sweetwater	1989	22N-110W	1	2,669 0		13,294 0	13,294 0	OIL GAS

**PRODUCTION FIGURES FOR OIL AND GAS
FIELDS AND UNITS¹ (Continued)**

Field or Unit Name	County	First Discovered	Location Twp. Rge.	Number of Producing Wells	December 1989 Production Oil-BBLs Gas-MCF	Cumulative 1989 Oil-BBLs Gas-MCF	Total Cumulative Oil-BBLs Gas-MCF	Remarks ²
Swan	Sweetwater	1970	25N-110W	5	4,935 220,969	62,679 1,806,374	357,296 11,591,169	OIL GAS
Table Rock	Sweetwater	1946	18 & 19N 97 & 98W	80	19,021 1,327,801	232,995 15,591,130	4,575,303 448,282,247	OIL GAS
Table Rock Southwest	Sweetwater	1955	18N-98W	2	190 8,685	1,935 79,434	29,754 6,940,081	OIL GAS
Taylor Ranch	Uinta	1986	13N-114W	6	5,673 60,135	62,723 562,001	135,955 1,176,011	OIL GAS
Ten Mile Draw	Sweetwater	1962	21N-98 & 99W	5	91 76,611	517 428,039	4,511 7,491,436	OIL GAS
Trail Unit	Sweetwater	1958	13 & 14N-100W	6	1,065 235,436	2,625 614,144	349,163 66,056,706	OIL GAS
Treasure	Sweetwater	1980	24N-101W	1	0 0	22 16,741	22,359 519,041	OIL GAS
Twin Rocks	Sweetwater	1956	21N-103W	0	0 0	0 0	139 131,636	OIL-SI GAS-1985
Vermillion Creek	Sweetwater	1961	13N-100 & 101W	0	0 0	0 0	453 24,204	OIL-ABD GAS-1963
Whiskey Springs	Uinta	1987	12N-114W	3	35,149 318,695	552,164 4,363,789	1,483,101 10,060,605	OIL GAS
Whitefeather	Sweetwater	1972	21N-110W	0	0 0	0 0	2,755 0	OIL-ABD GAS-1975
GRAND TOTALS				1,118	478,623 17,015,829	6,308,491 178,439,693	171,107,919 3,014,456,566	OIL GAS

¹ Wyoming Oil and Gas Conservation Commission, Oil and Gas Statistics for 1989. All fields lying entirely or partially with the Resource Area.

² SI = shut in; ABD = abandoned

APPENDIX 8-1

LANDS IDENTIFIED AS POSSIBLY SUITABLE FOR DISPOSAL

ACRES	LEGAL DESCRIPTION		
	Township and Range	Section	Lot or Legal
PROPOSED PLAN			
Sale/Exchange - Lands Difficult to Manage			
55.23	T. 24 N., R. 99 W.	Section 8	Lot 5, S1/2NE1/4SE1/4
34.33	T. 24 N., R. 99 W.	Section 9	Lot 1
128.00	T. 13 N., R. 101 W.	Section 18	All or portions of Lots 6, 12, 13, 16, 17
107.61	T. 13 N., R. 102 W.	Section 13	Lots 1, 2, 3
20.00	T. 27 N., R. 103 W.	Section 4	S1/2NW1/4NE1/4
80.00	T. 30 N., R. 105 W.	Section 20	NW1/4NE1/4, NE1/4NW1/4
40.00	T. 19 N., R. 106 W.	Section 34	SW1/4SE1/4
80.00	T. 19 N., R. 107 W.	Section 34	N1/2NE1/4NE1/4, N1/2NE1/4NW1/4, W1/2NW1/4SW1/4, E1/2NE1/4SE1/4
17.53	T. 12 N., R. 111 W.	Section 6	Lots 11, 12, 13
15.56	T. 12 N., R. 112 W.	Section 1	Lots 5, 6
7.39	T. 12 N., R. 112 W.	Section 13	Lot 4
Sale/Exchange - Lands Available for Community or Industrial Expansion			
80.00	T. 21 N., R. 101 W.	Section 24	N1/2SW1/4
640.00	T. 21 N., R. 101 W.	Section 36	All
40.00	T. 19 N., R. 103 W.	Section 10	NE1/4NW1/4
640.00	T. 18 N., R. 104 W.	Section 2	All
640.00	T. 18 N., R. 104 W.	Section 14	All
640.00	T. 18 N., R. 104 W.	Section 20	All
160.00	T. 18 N., R. 104 W.	Section 22	NW1/4
82.87	T. 18 N., R. 105 W.	Section 8	Lots 5, 6
320.00	T. 18 N., R. 105 W.	Section 18	S1/2
120.00	T. 19 N., R. 105 W.	Section 4	N1/2SE1/4, SE1/4SE1/4
240.00	T. 18 N., R. 106 W.	Section 14	E1/2SW1/4, SE1/4
640.00	T. 18 N., R. 106 W.	Section 24	All
480.10	T. 17 N., R. 107 W.	Section 4	Lots 7-8, S1/2N1/2, S1/2
315.62	T. 17 N., R. 107 W.	Section 6	Lots 10-14, SW1/4NW1/4, E1/2SW1/4
640.00	T. 17 N., R. 107 W.	Section 8	All
230.00	T. 17 N., R. 107 W.	Section 10	N1/2S1/2, E1/2SW1/4, E1/2W1/2SW1/4, SE1/4
640.00	T. 17 N., R. 107 W.	Section 12	All
640.00	T. 17 N., R. 107 W.	Section 14	All
637.70	T. 17 N., R. 107 W.	Section 18	Lots 5-8, E1/2, E1/2W1/2
640.32	T. 18 N., R. 107 W.	Section 4	All
233.00	T. 18 N., R. 107 W.	Section 14	Lots 9-12, 15, 16
500.28	T. 18 N., R. 107 W.	Section 16	Lots 3-7, 10-15
632.56	T. 18 N., R. 107 W.	Section 18	Lots 6-8, E1/2, E1/2W1/2
640.00	T. 18 N., R. 107 W.	Section 20	All
640.00	T. 18 N., R. 107 W.	Section 32	All
315.00	T. 18 N., R. 107 W.	Section 34	NW1/4, SE1/4 (Excepting 5 acres)
627.18	T. 19 N., R. 107 W.	Section 30	Lots 5-8, E1/2, E1/2W1/2
640.00	T. 19 N., R. 107 W.	Section 32	All

APPENDIX 8-1

LANDS IDENTIFIED AS POSSIBLY SUITABLE FOR DISPOSAL (Continued)

ACRES	LEGAL DESCRIPTION		
	Township and Range	Section	Lot or Legal
PROPOSED PLAN (Continued)			
Sale/Exchange - Lands Available for Community or Industrial Expansion (Continued)			
640.00	T. 17 N., R. 108 W.	Section 12	All
640.08	T. 18 N., R. 108 W.	Section 2	Lots 5-8, S1/2N1/2, S1/2
640.48	T. 18 N., R. 108 W.	Section 4	Lots 5-8, S1/2N1/2, S1/2
640.00	T. 18 N., R. 108 W.	Section 10	All
640.00	T. 18 N., R. 108 W.	Section 12	All
640.00	T. 18 N., R. 108 W.	Section 14	All
640.00	T. 18 N., R. 108 W.	Section 22	All
640.00	T. 18 N., R. 108 W.	Section 24	All
640.00	T. 18 N., R. 108 W.	Section 26	All
640.00	T. 18 N., R. 108 W.	Section 36	All
640.00	T. 19 N., R. 108 W.	Section 32	All
Exchange			
239.40	T. 19 N., R. 108 W.	Section 6	Lots 8-9, S1/2NE1/4, SE1/4NW1/4, NE1/4SW1/4
640.00	T. 25 N., R. 112 W.	Section 3	All
640.00	T. 25 N., R. 112 W.	Section 9	All
640.00	T. 25 N., R. 112 W.	Section 10	All
640.00	T. 25 N., R. 112 W.	Section 15	All
Recreation and Public Purposes Lands			
159.54	T. 19 N., R. 105 W.	Section 4	Lots 5, 6, S1/2NE1/4
125.54	T. 19 N., R. 105 W.	Section 14	Lots 9, 10, 16
134.83	T. 19 N., R. 105 W.	Section 28	Lots 3, 4, 5, 23
5.00	T. 20 N., R. 105 W.	Section 20	SW1/4SW1/4SW1/4SE1/4
Landfill Sales			
2.50	T. 20 N., R. 101 W.	Section 28	SE1/4SE1/4SE1/4NE1/4
640.00	T. 18 N., R. 105 W.	Section 20	(excepting acreage sold previously to Solid Waste District #1)
320.00	T. 18 N., R. 105 W.	Section 30	E1/2
20.04	T. 17 N., R. 107 W.	Section 4	Lot 9
24,527.69 TOTAL ACREAGE (Proposed Plan)			

APPENDIX 8-1

LANDS IDENTIFIED AS POSSIBLY SUITABLE FOR DISPOSAL (Continued)

ACRES	LEGAL DESCRIPTION		
	Township and Range	Section	Lot or Legal
ALTERNATIVE A			
40.00	T. 19 N., R. 98 W.	Section 12	NE1/4SE1/4
320.00	T. 21 N., R. 102 W.	Section 30	E1/2
320.00	T. 21 N., R. 102 W.	Section 32	N1/2
560.00	T. 21 N., R. 102 W.	Section 34	N1/2, N1/2S1/2, SW1/4SW1/4, SE1/4SE1/4
40.00	T. 18 N., R. 105 W.	Section 6	SE1/4SE1/4
492.30	T. 18 N., R. 105 W.	Section 8	Lots 1-10, 15, 16
314.47	T. 18 N., R. 105 W.	Section 18	Lots 7, 8, E1/2SW1/4, SE1/4
280.00	T. 19 N., R. 105 W.	Section 2	SE1/4NE1/4, E1/2SW1/4, S1/2N1/2NW1/4SW1/4, S1/2NW1/4SW1/4, SW1/4SW1/4, E1/2SW1/4
399.12	T. 19 N., R. 105 W.	Section 4	Lots 5-8, S1/2NE1/4, NW1/4SW1/4, N1/2SE1/4, SE1/4SE1/4
400.00	T. 19 N., R. 105 W.	Section 8	N1/2NE1/4, SE1/4NE1/4, SE1/4NW1/4, E1/2SW1/4, SE1/4
188.25	T. 19 N., R. 105 W.	Section 14	Lots 8-10, 16, 25, 27-30
503.83	T. 19 N., R. 105 W.	Section 16	Lots 5-16
162.42	T. 19 N., R. 105 W.	Section 22	Lots 3-6
134.78	T. 19 N., R. 105 W.	Section 28	Lots 2, 6, 7, 23
300.04	T. 19 N., R. 105 W.	Section 32	Lots 1, 2, 7, 8
320.00	T. 20 N., R. 105 W.	Section 20	E1/2
480.00	T. 20 N., R. 105 W.	Section 28	E1/2, N1/2NW1/4, SE1/4NW1/4, NE1/4SW1/4
160.00	T. 18 N., R. 106 W.	Section 12	SE1/4SW1/4, NE1/4SE1/4, S1/2SE1/4
240.24	T. 18 N., R. 107 W.	Section 6	Lots 8-9, S1/2NE1/4, E1/2SE1/4
200.00	T. 18 N., R. 107 W.	Section 8	NE1/4, NE1/4NW1/4
607.61	T. 18 N., R. 107 W.	Section 16	Lots 2-16
500.00	T. 18 N., R. 107 W.	Section 24	N1/2, N1/2SW1/4, SE1/4SW1/4, SE1/4
640.00	T. 18 N., R. 108 W.	Section 10	All
240.00	T. 18 N., R. 108 W.	Section 12	N1/2N1/2, N1/2S1/2N1/2
640.00	T. 18 N., R. 108 W.	Section 14	All
640.00	T. 18 N., R. 108 W.	Section 24	All

9,123.06 TOTAL ACREAGE (Alt. A)

APPENDIX 8-1

LANDS IDENTIFIED AS POSSIBLY SUITABLE FOR DISPOSAL (Continued)

ACRES	LEGAL DESCRIPTION		
	Township and Range	Section	Lot or Legal
ALTERNATIVES B AND C			
Sale/Exchange - Lands Difficult to Manage			
55.23	T. 24 N., R. 99 W.	Section 8	Lot 5, S1/2NE1/4SE1/4
34.33	T. 24 N., R. 99 W.	Section 9	Lot 1
128.00	T. 13 N., R. 101 W.	Section 18	All of portions of Lots 6, 12, 13, 16, 17
107.61	T. 13 N., R. 102 W.	Section 13	Lots 1, 2, 3
20.00	T. 27 N., R. 103 W.	Section 4	S1/2NW1/4NE1/4
80.00	T. 30 N., R. 105 W.	Section 20	NW1/4NE1/4, NE1/4NW1/4
40.00	T. 19 N., R. 106 N.	Section 34	SW1/4SE1/4
80.00	T. 19 N., R. 107 W.	Section 34	N1/2NE1/4NE1/4, N1/2NE1/4NW1/4, W1/2NW1/4SW1/4, E1/2NE1/4SE1/4
17.53	T. 12 N., R. 111 W.	Section 6	Lots 11, 12, 13
15.56	T. 12 N., R. 112 W.	Section 1	Lots 5, 6
7.39	T. 12 N., R. 112 W.	Section 13	Lot 4
Sale/Exchange - Lands Available for Community or Industrial Expansion			
80.00	T. 21 N., R. 101 W.	Section 24	N1/2SW1/4
640.00	T. 21 N., R. 101 W.	Section 36	All
640.00	T. 18 N., R. 104 W.	Section 2	All
640.00	T. 18 N., R. 104 W.	Section 14	All
640.00	T. 18 N., R. 104 W.	Section 20	All
160.00	T. 18 N., R. 104 W.	Section 22	NW1/4
82.87	T. 18 N., R. 105 W.	Section 8	Lots 5, 6
320.00	T. 18 N., R. 105 W.	Section 18	S1/2
640.00	T. 18 N., R. 105 W.	Section 30	All
80.00	T. 19 N., R. 105 W.	Section 2	E1/2SW1/4
120.00	T. 19 N., R. 105 W.	Section 4	N1/2SE1/4, SE1/4SE1/4
160.00	T. 19 N., R. 105 W.	Section 8	E1/2E1/2
640.00	T. 18 N., R. 106 W.	Section 24	All
315.62	T. 17 N., R. 107 W.	Section 6	Lots 10-14, SW1/4NW1/4, E1/2SW1/4
640.00	T. 17 N., R. 107 W.	Section 8	All
640.00	T. 18 N., R. 108 W.	Section 10	All
640.00	T. 18 N., R. 108 W.	Section 14	All
640.00	T. 18 N., R. 108 W.	Section 24	All
640.00	T. 18 N., R. 108 W.	Section 36	All
40.00	T. 17 N., R. 107 W.	Section 4	NE1/4NE1/4
40.00	T. 19 N., R. 103 W.	Section 10	NE1/2NW1/4
Recreation and Public Purposes Lands			
159.54	T. 19 N., R. 105 W.	Section 4	Lots 5,6, S1/2NE1/4
125.54	T. 19 N., R. 105 W.	Section 14	Lots 9, 10, 16
504.10	T. 19 N., R. 105 W.	Section 16	Lots 5-16
134.83	T. 19 N., R. 105 W.	Section 28	Lots 3, 4, 5, 23

APPENDIX 8-1

LANDS IDENTIFIED AS POSSIBLY SUITABLE FOR DISPOSAL (Continued)

ACRES	LEGAL DESCRIPTION		
	Township and Range	Section	Lot or Legal
ALTERNATIVES B AND C			
Exchange			
329.92	T. 19 N., R. 108 W.	Section 6	Lots 8-17, S1/2NE1/4, SE1/4NW1/4, NE1/4SW1/4
640.00	T. 25 N., R. 112 W.	Section 3	All
640.00	T. 25 N., R. 112 W.	Section 9	All
640.00	T. 25 N., R. 112 W.	Section 10	All
640.00	T. 25 N., R. 112 W.	Section 15	All
Landfill Sale			
285.00	T. 18 N., R. 105 W.	Section 20	W1/2 (excepting acreage sold previously to Solid Waste District #1)
13,043.07 TOTAL ACREAGE (Alts. B & C)			

NOTE: Reference Appendix 8-2 (Disposal Criteria)

APPENDIX 8-2

DISPOSAL CRITERIA

The Federal Land Policy Act of 1976 provides for retention of the public lands in federal ownership and management by BLM for multiple use and sustained yield of the lands and resources, with environmental integrity. Public lands may be transferred from BLM to other federal agencies for management. Disposal by sale, exchange or Recreation and Public Purpose patent remains an option if such an action will serve an important objective and have a public benefit.

Prior to any disposal, a site specific analysis must determine that the lands considered contain no significant wildlife, recreation, or other resource values the loss of which cannot be mitigated; have no overriding public values; and represent no substantial public investments. Disposal must serve the public interest. Exchange will be the priority method for disposals.

Lands will not be considered for disposal if they are allocated for a specific use, even though they meet the general disposal criteria.

EXCHANGES

The policy is to promote land exchanges which serve the national interest and are beneficial to BLM programs or which support the programs of other agencies (reference Sections 102, 205, and 206 of FLPMA).

Transfer of leasable minerals out of Federal ownership should be avoided except where non-Federal leasable minerals are to be received in return. It is preferable to trade both surface and subsurface (mineral) estates.

Exchanges should involve lands similar in character and/or value. Proposals will not be considered where it is the intent to transfer acquired lands out of Federal ownership or control.

Exchanges should not be made solely for the purpose of blocking up Federal land ownership.

SALES

Public land sale proposals are the result of either a BLM initiative or in response to expressed public interest or need. Lands to be considered for disposal, at a minimum, must meet the following criteria as outlined in Section 203 of the Federal Land Management and Policy Act.

1. They are difficult and uneconomical to manage, and are not suitable for management by another Federal department or agency.
2. Disposal would serve important public objectives, including but not limited to, community expansion or economic development which could not be achieved prudently or feasibly on land other than public lands and which outweigh other public objectives or values.
3. Such tract was acquired for a specific purpose, and the tract is no longer required for that purpose or any other Federal purpose.

SALES/EXCHANGES INVOLVING WETLANDS

Bureau policy is to retain wetlands in Federal ownership unless Federal, State, public and private institutions, and parties have demonstrated the ability to maintain, restore, and protect wetlands and riparian habitats on a continuous basis (BLM Manual 6740). Sales/exchanges may be authorized when:

1. The tract of public wetlands is either so small or remote that it is uneconomical to manage.
2. The tract of public wetlands is not suitable for management by another Federal agency.
3. The patent contains restrictions of uses as prohibited by identified Federal, State, or local wetlands regulations.
4. The patent contains restrictions and conditions that ensure the patentee can maintain, restore, and protect the wetlands on a continuous basis.

RECREATION AND PUBLIC PURPOSES LEASE/PATENT

The objective of the R&PP Act is to meet the needs of State and local governmental agencies and other qualified organizations for public lands required for recreational and public purposes. Use of the R&PP Act protects public values in the land through its reversionary provisions and helps qualified entities obtain the more liberal pricing authorized under the act.

Public lands shall be conveyed or leased only for an established or definitely proposed project for which there is a reasonable timetable of development and satisfactory development and management plans. No more land than is reasonably necessary for the proposed use shall be conveyed.

DESERT LAND ENTRIES

The purpose of the Desert Land Law is to permit the reclamation by irrigation of arid public land through individual effort and private capital.

Lands which will not produce any reasonably remunerative agricultural crop by the usual means or methods of cultivation without artificial irrigation may be considered for a desert land entry. The lands must be untimbered, surveyed, unreserved, and unappropriated. Tracts need not be contiguous, but shall be sufficiently close to each other as to be managed satisfactorily as an economic unit.

The proposed crop may include any agricultural product to which the land under consideration is generally adapted and which would return a fair reward for the expense of producing it.

All Desert Land Entry applications will be coordinated with the Wyoming State Engineer and the Soil Conservation Service (reference Soils section).

APPENDIX 8-3

PROPOSED ACQUISITIONS

(by alternative)

(PROPOSED PLAN)

1. Acquire easements (approximately 300 acres) to provide access to public lands for resource needs.
2. Acquire riparian lands (840 acres)
3. Acquire 1,280 acres of land within the ½ mile corridor or between river segments on the Big Sandy River.
4. Acquire 4,800 acres of land within the ½ mile corridor or between river segments on the Sweetwater River.
5. Acquire 1,920 acres of State inholdings in the Devils Playground WSA.
6. Acquire 1,920 acres of State inholdings in the Sand Dunes WSA.
7. Acquire 640 acres - Black Rock (West Red Desert HMP).
8. Acquire 2,420 acres in Prospect Mountains HMP.
9. Acquire 320 acres in Sage Creek/Currant Creek HMP.
10. Acquire 640 acres of State lands in the Greater Sand Dunes ACEC.
11. Acquire 40 acres - Fort LaCledé.
12. Acquire 1,920 acres on Pine Butte to manage the candidate plant species *Descurainia torulosa*.
13. Acquire 2,072 acres of State lands on Steamboat Mountain.
14. Acquire 4,020 acres of lands along Currant Creek.
15. Acquire SW of section 16, 10 acres - Rador Springs.
16. Acquire SW of Section 7, 160 acres - Scott Meadows.
17. Acquire NWSW of Section 9, 20 acres - Gunn Mining Townsite.
18. Acquire SW of Section 29 - 20 acres - Hallville Mine and Town.
19. Acquire N2NE, SWNE, NWSE of Section 25 - 160 acres - Washington Homestead - Finley.
20. Acquire NENE of Section 1 - 40 acres - Big Pond Stage Station.
21. Acquire Section 27 - 640 acres - Aspen Mountain Site.
22. Acquire 640 acres of State inholdings in the Sand Dunes and Buffalo Hump WSAs.
23. Acquire NENE of Section 29 and SWSW of Section 21, T. 27 N., R. 103 W. - 80 acres - Dry Sandy Stage & Pony Express Station.
24. Sections 5, 17, 29 and 31 of T. 19 N., R. 105 W., and section 6 of T. 18 N., R. 105 W. for watershed and big game migration - 3,200 acres.
25. Acquire NESW of section 30, T. 15 N., R. 107 W. for watershed - 40 acres.
26. Acquire SESE of section 23, T. 13 N., R. 106 W. for watershed - 40 acres.

(ALTERNATIVE A)

1. Acquire 1,280 acres of land within the ½ mile corridor or between river segments on the Big Sandy.
2. Acquire 4,800 acres of land within the ½ mile corridor or between river segments on the Sweetwater River.
3. Acquire 1,920 acres of State inholdings in the Sand Dunes WSA.
4. Acquire 1,280 acres of State inholdings in the Honeycomb Buttes WSA.
5. Acquire 1,280 acres of State inholdings in the Devils Playground WSA.
6. Acquire 640 acres - Black Rock (West Red Desert HMP).
7. Acquire 2,420 acres in Prospect Mountains HMP.
8. Acquire 320 acres in Sage Creek/Currant Creek HMP.
9. Acquire 18,300 acres of State lands within the Red Desert Watershed.
10. Acquire 840 acres of riparian lands.
11. Acquire 40 acres - Fort LaCledé.
12. Acquire 50 acres - road easements.
13. Acquire 640 acres of State lands in the Greater Sand Dunes ACEC.
14. Acquire 640 acres of State inholdings in the Sand Dunes and Buffalo Hump WSAs.

(ALTERNATIVE B)

1. Acquire easements (approximately 300 acres) to provide access to public lands for resource needs.
2. Acquire riparian lands (840 acres).
3. Acquire 1,280 acres of land within the ½ mile corridor or between river segments on the Big Sandy.
4. Acquire 4,800 acres of land within the ½ mile corridor or between river segments on the Sweetwater River.
5. Acquire 1,920 acres of State inholdings in the Sand Dunes WSA.
6. Acquire 1,280 acres of State inholdings in the Devils Playground WSA.
7. Acquire 640 acres - Black Rock (West Red Desert HMP).
8. Acquire 2,420 acres in Prospect Mountains HMP.
9. Acquire 320 acres in Sage Creek/Currant Creek HMP.
10. Acquire 18,300 acres of State lands within the Red Desert Watershed.
11. Acquire 40 acres - Fort LaCledé.

APPENDIX 8-3

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|---|--|
| <p>12. Acquire 640 acres of State lands in the Greater Sand Dunes ACEC.</p> <p>13. Acquire 640 acres of State inholdings in the Sand Dunes and Buffalo Hump WSAs.</p> | <p>6. Acquire 1,280 acres of State inholdings in the Devils Playground WSA.</p> <p>7. Acquire 640 acres - Black Rock (West Red Desert HMP).</p> <p>8. Acquire 2,420 acres in Prospect Mountains HMP.</p> <p>9. Acquire 320 acres in Sage Creek/Currant Creek HMP.</p> <p>10. Acquire 960 acres within the Red Desert Watershed.</p> <p>11. Acquire 40 acres - Fort LaCledé.</p> <p>12. Acquire 640 acres of State lands in the Greater Sand Dunes ACEC.</p> <p>13. Acquire 4,020 acres of lands along Currant Creek/Trout Creek.</p> <p>14. Acquire 640 acres of State inholdings in the Sand Dunes and Buffalo Hump WSAs.</p> <p>15. Acquire 1,920 acres on Pine Butte to manage the candidate plant species <i>Descurainia torulosa</i>.</p> |
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(ALTERNATIVE C)

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| <p>1. Acquire easements (approximately 300 acres) to provide access to public lands for resource needs.</p> <p>2. Acquire riparian lands (840 acres).</p> <p>3. Acquire 1,280 acres of land within the ½ mile corridor or between river segments on the Big Sandy.</p> <p>4. Acquire 4,800 acres of land within the ½ mile corridor or between river segments on the Sweetwater River.</p> <p>5. Acquire 1,920 acres of State inholdings in the Sand Dunes WSA.</p> | <p>6. Acquire 1,280 acres of State inholdings in the Devils Playground WSA.</p> <p>7. Acquire 640 acres - Black Rock (West Red Desert HMP).</p> <p>8. Acquire 2,420 acres in Prospect Mountains HMP.</p> <p>9. Acquire 320 acres in Sage Creek/Currant Creek HMP.</p> <p>10. Acquire 960 acres within the Red Desert Watershed.</p> <p>11. Acquire 40 acres - Fort LaCledé.</p> <p>12. Acquire 640 acres of State lands in the Greater Sand Dunes ACEC.</p> <p>13. Acquire 4,020 acres of lands along Currant Creek/Trout Creek.</p> <p>14. Acquire 640 acres of State inholdings in the Sand Dunes and Buffalo Hump WSAs.</p> <p>15. Acquire 1,920 acres on Pine Butte to manage the candidate plant species <i>Descurainia torulosa</i>.</p> |
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POTENTIAL STATE LAND EXCHANGES

(Proposed Plan and Alternative C)

State lands as they come available for purchase or exchange (preferably both surface and mineral to avoid split estate).

*SURFACE AND SUBSURFACE UNLESS OTHERWISE NOTED

POINT OF ROCKS STAGE STATION

NWSWSWSW of sec 27, T. 20 N., R. 101 W.	20 acres
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STEAMBOAT MOUNTAIN ACEC

sec 16 of T. 23 N., R. 102 W.	640 acres
sec 16 of T. 24 N., R. 102 W.	640 acres
NWNW of sec 30, T. 24 N., R. 102 W.	40 acres
SESE of sec 12, T. 24 N., R. 103 W.	40 acres

NORTH/SOUTH TABLE ROCK

sec 36 of T. 23 N., R. 103 W. (Minerals only)	640 acres
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OREGON BUTTES ACEC

sec 16 of T. 26 N., R. 101 W.	640 acres
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SAND DUNES (BOARS TUSK)

sec 16 of T. 23 N., R. 104 W. (Minerals only)	640 acres
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ORV PARKING AREA

sec 16 of T. 23 N., R. 103 W. (Minerals only)	640 acres
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SWEETWATER RIVER

NENE of sec 34, T. 29 N., R. 102 W.	40 acres
sec 16 of T. 29 N., R. 102 W.	640 acres
SESE of sec 27, T. 29 N., R. 102 W.	40 acres

MUDDY GAP ACCESS

NENE, S2N2 of sec 18, T. 30 N., R. 104 W.	200 acres
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GREEN RIVER SPECIAL RECREATION MANAGEMENT AREA

sec 4, T. 20 N., R. 109 W.	640 acres
sec 16, T. 20 N., R. 109 W.	640 acres
sec 16, T. 27 N., R. 112 W.	640 acres
sec 16, T. 26 N., R. 112 W.	640 acres
sec 16, T. 21 N., R. 109 W.	640 acres

APPENDIX 8-3

GREEN RIVER SPECIAL RECREATION MANAGEMENT AREA (Continued)

NW of sec 22, T. 21 N., R. 109 W.	160 acres
sec 36, T. 21 N., R. 109 W.	640 acres
N2 of sec 8, T. 19 N., R. 108 W.	320 acres
N2N2 of sec 22, T. 19 N., R. 108 W.	160 acres

SOUTH PASS HISTORIC LANDSCAPE

sec 16, T. 27 N., R. 100 W.	640 acres
sec 16, T. 28 N., R. 100 W.	640 acres
N2SW of sec 29, T. 28 N., R. 100 W.	80 acres
N2S2 of sec 30, T. 28 N., R. 100 W.	160 acres
sec 36 of T. 28 N., R. 100 W.	640 acres
sec 16, T. 27 N., R. 101 W.	640 acres
SESW, SWSE of sec 14, T. 28 N., R. 101 W.	80 acres
sec 16 of T. 28 N., R. 101 W.	640 acres
SESE of sec 22, T. 28 N., R. 101 W.	40 acres
SE, E2SW of sec 25, T. 28 N., R. 101 W.	240 acres
E2E2 of sec 27, T. 28 N., R. 101 W.	160 acres
NW of sec 28, T. 28 N., R. 101 W.	160 acres
sec 36 of T. 28 N., R. 101 W.	640 acres
sec 36, T. 27 N., R. 102 W.	640 acres
sec 36, T. 28 N., R. 102 W.	640 acres

CANDIDATE PLANT HABITAT	1,440 acres
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RIPARIAN MANAGEMENT AREAS

Big Sandy River

NENW, SWNW of sec 6, T. 23 N., R. 107 W.	80 acres
S2NE, S2NW, NWSW of sec 1, T. 23 N., R. 108 W.	200 acres
SESE of sec 2, T. 23 N., R. 108 W.	80 acres
NENE of sec 11, T. 23 N., R. 108 W.	40 acres
SWSW of sec 21, T. 24 N., R. 107 W.	40 acres
NENE, SWNE, E2SE of sec 29, T. 24 N., R. 107 W.	160 acres
SESW, N2SE of sec 31, T. 24 N., R. 107 W.	120 acres
NENE, SWNE, NWSE, N2SW of sec 32, T. 24 N., R. 107 W.	200 acres

Maggie Spring

SE of sec 29, T. 15 N., R. 104 W.	160 acres
W2W2, E2 of sec 32, T. 15 N., R. 104 W.	480 acres
Tract 51, T. 14 N., R. 104 W.	160 acres

Little Basin Creek

Tracts 37, 38, 39, 42, 45, 46, 47, 48, 49, T. 14 N., R. 104 W.	1,760 acres
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GREATER RED CREEK ACEC

Vermillion Creek

sec 16, T. 13 N., R. 102 W.	640 acres
Tract 55, T. 13 N., R. 102/103 W.	80 acres

Red Creek

Tracts 42, 43, 44, 45 of T. 13 N., R. 103 W.	520 acres
Tract 37 of T. 13 N., R. 103/104 W.	80 acres
Tract 58 of T. 13 N., R. 104 W.	40 acres

Camp Creek

NWSW, NWSE of sec 2, T. 13 N., R. 105 W.	80 acres
Tract 51 of T. 13/14 N., R. 105 W.	225 acres
Lot 45 of T. 13 N., R. 105 W.	225 acres

Gooseberry Creek

Lot 37 of T. 14 N., R. 105 W.	320 acres
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APPENDIX 8-3

RIPARIAN MANAGEMENT AREAS (Continued)

Trout Creek

NE, N2SE of sec 19, T. 23 N., R. 105 W.	240 acres
W2 of sec 5, T. 13 N., R. 105 W.	320 acres
S2SW, N2NW of sec 8, T. 13 N., R. 105 W.	160 acres
S2SW of sec 17, T. 14 N., R. 105 W.	80 acres
W2 of sec 20, T. 14 N., R. 105 W.	320 acres
W2 of sec 29, T. 14 N., R. 105 W.	320 acres
W2 of sec 32, T. 14 N., R. 105 W.	320 acres

Currant Creek

NENW, NWSW of sec 12, T. 13 N., R. 106 W.	80 acres
NWSW of sec 13, T. 13 N., R. 106 W.	40 acres
NENE of sec 14, T. 13 N., R. 106 W.	40 acres
S2SW of sec 4, T. 14 N., R. 106 W.	80 acres
S2SE of sec 11, T. 14 N., R. 106 W.	80 acres
W2SESW, E2SWSW, N2SW, S2NW of sec 13, T. 14 N., R. 106 W.	200 acres
N2NE of sec 14, T. 14 N., R. 106 W.	80 acres
SE, S2NE, E2NWNW, W2NENW of sec 24, T. 14 N., R. 106 W.	300 acres
N2SE, NE of sec 25, T. 14 N., R. 106 W.	240 acres
N2SE, S2NE of sec 36, T. 14 N., R. 106 W.	160 acres

APPENDIX 9-1

ALLOTMENT MONITORING AND CATEGORIES

ALLOTMENT		CATEGORY	ACTUAL USE	UTILIZA- TION	TREND	FIELD OBSERVATIONS	OTHER STUDIES
NUMBER	NAME						
03000	GOLD CREEK	I	X	X	X	X	SRT
03016	4TH OF JULY	I	X	X		X	
03028	EDEN PROJECT	None	X			X	
03202	JUEL PLACE	C	X			X	
03203	SPICER GROUP	C	X			X	
03204	GRASS CREEK	C	X			X	
03206	PULLEY PLACE	C	X			X	
03207	PACIFIC SPRINGS	C	X			X	
03214	JOHNSON PLACE	C	X			X	
03215	COOKSTON RANCH	C	X			X	
03303	JENSEN MEADOWS	C	X			X	
03304	BIG SANDY RANCH	C	X			X	
03307	HAY MEADOW	C	X			X	
03404	RICHIE PASTURE	C	X			X	
03407	HAY MEADOW EXC.	C	X			X	
04001	CIRCLE SPRINGS	I	X	X		X	SRT
04007	RIFE	M	X	X		X	
04003	VERMILLION CREEK	I	X	X	X	X	
04004	ALKALI CREEK	M	X	X		X	
04005	CROOKED WASH	I	X	X		X	
04006	HORSESHOE WASH	I	X	X		X	
04007	PINE MOUNTAIN	I	X	X	X	X	SRT
04008	RED CREEK	I	X	X	X	X	SRT
04009	SALT WELLS	I	X	X	X	X	SRT
04010	SUGARLOAF	I	X	X	X	X	SRT
04011	SPRING CREEK	I	X	X	X	X	
04012	HENRYS FORK	I	X	X	X	X	
04013	HICKEY MOUNTAIN	I	X	X		X	SRT
04014	LARSEN	M	X	X		X	
04015	STAG HOLLOW	M	X	X		X	
04016	DONOHOO	C	X	X	X	X	
04017	POISON CREEK	C	X	X		X	
04018	BALD HILLS	I	X	X		X	
04019	HANKS	I	X	X		X	
04020	HISEY HOLLOW	C	X	X		X	
04021	CEDAR POINT	C	X	X		X	
04022	ANTELOPE	I	X	X		X	
04023	CIRCLE BAR	C	X	X		X	
04024	SAGE	C	X	X		X	
04025	COTTONWOOD CREEK	I	X	X		X	
04026	PEOPLES CANAL	C	X	X		X	
04027	MELLOR MOUNTAIN	I	X	X	X	X	SRT
13001	WHITE ACORN	M	X	X	X	X	
13002	LITTLE PROSPECT	I	X	X	X	X	
13003	LITTLE SANDY	I	X	X	X	X	
13004	PROSPECT MOUNTAIN	I	X	X	X	X	
13005	POSTON	I	X	X	X	X	
13006	RESERVOIR	M	X	X	X	X	
13007	PACIFIC CREEK	M	X	X	X	X	
13008	BAR X	M	X	X	X	X	
13009	FISH CREEK	I	X	X	X	X	
13010	PINE CREEK	I	X	X	X	X	SRT

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ALLOTMENT MONITORING AND CATEGORIES

ALLOTMENT		CATEGORY	ACTUAL USE	UTILIZA- TION	TREND	FIELD OBSERVATIONS	OTHER STUDIES
NUMBER	NAME						
13011	CONTINENTAL PEAK	M	X	X	X	X	
13012	RED DESERT	M	X	X	X	X	
13013	BUSH RIM	M	X	X	X	X	
13014	STEAMBOAT MOUNTAIN	I	X	X	X	X	
13015	SANDS	I	X	X	X	X	
13017	EIGHTEEN MILE	I	X	X	X	X	
13018	ROCK SPRINGS	M	X	X		X	
13019	SANDY PASTURE	M					
13020	BUCKSKIN-SANDY	M	X	X	X	X	
13021	MACK FLAT	C					
13022	LOMBARD	I	X	X	X	X	SRT
13023	FIGURE FOUR	I	X	X	X	X	
13024	BIG SANDY	M	X	X	X	X	
13025	HIGHWAY GASSON	I	X	X	X	X	
13026	BOUNDARY	M	X	X	X	X	
13027	SUBLETTE	I	X	X	X	X	
13100	JACK RANCH	C	X			X	
13101	UPPER WHITE ACORN	C	X			X	
13102	McCANN RANCH	C	X			X	
13103	EATON PLACE	C	X			X	
13104	LONG DRAW	C	X			X	
13105	ERRAMOUSPE	C	X			X	
13106	DEWEY PLACE	C	X			X	
13107	MIDDLE HAY	C	X			X	
13109	SWEETWATER	I	X			X	
13110	DEAD OX	C	X			X	
13114	CHILTON PLACE	C	X			X	
13115	HOUGHTON	C	X			X	

Note: Precipitation data is collected for all allotments.

X = Monitoring taking place

SRT = Special riparian transect

APPENDIX 9-2

STANDARD OPERATING PROCEDURES FOR RANGE IMPROVEMENTS AND VEGETATION MANIPULATIONS

These operating procedures provide standard guidance for all range improvements and vegetation manipulations.

Consultation with the affected interest groups and an approved environmental analysis would be required for all range improvements before any project is constructed.

Roads or trails to new construction or project sites would be constructed only if access does not exist.

Proposed range improvements that would result in surface disturbance would be inventoried for archeological features. All archeological sites identified would be avoided or mitigated. If undiscovered cultural remains are encountered during construction, the operator would temporarily discontinue activities until BLM evaluates the discovery and determines the appropriate action.

Proposed range improvements resulting in surface disturbance would be subject to these guidelines.

No action would be taken by BLM that could jeopardize the continued existence of any federally listed threatened or endangered plant or animal species.

BLM would also comply with any state laws applying to animal or plant species identified by the state as being threatened or endangered (in addition to the federally listed species).

Wildlife escape devices would be installed and maintained in all water troughs.

Fences in pronghorn antelope winter ranges, deer crucial winter ranges, and known migration routes would be constructed to minimal standards (3-strand wire fence with bottom wire smooth and top two barbed), monitored annually, and modified if necessary to facilitate reasonable movement by wildlife.

All areas where vegetation manipulation occurs would be totally rested from livestock grazing for a minimum of two growing season, or longer if necessary, to allow for the recovery and re-establishment of key forage species.

Chemical treatment would consist of applying approved chemicals to meet plan objectives. Before chemicals are applied, the BLM would comply with Department of Interior regulations. All chemical applications would be preceded by an approved pesticide use proposal and an environmental assessment. All applications would be carried out in compliance with the pesticide laws for Wyoming.

All land treatment projects on crucial wildlife ranges will be limited in size, where necessary, by the cover and (or) forage requirements of wildlife. Proper mitigation measures would be incorporated.

All burning projects will have a burn plan, environmental assessment, and a burn permit from the State of Wyoming's Department of Environmental Quality prior to initiation.

The impacts on wildlife winter range areas and on wild horse distribution would be considered in planning all new water facilities.

On identified crucial deer winter ranges where vegetative manipulation is planned or other vegetative disturbance has occurred, include a variety of high quality shrub seedlings, such as winterfat, shadscale, four-wing saltbush and, in certain instances mountain

mahogany and antelope bitterbrush, to complement the usual grass mixture.

Exclusion of wild horses and livestock and possible re-seeding operations may be required in severe unstable watersheds.

All vegetation treatments will be designed irregular in shape for edge effect, cover, and visual esthetics.

DESIGN OF RANGE IMPROVEMENTS

All range improvements will be designed and constructed in such a manner so as to minimize environmental impacts while maximizing function and cost effectiveness. Prior to the installation of any range improvements, an environmental assessment (EA) will be prepared analyzing the alternatives for the project.

Brush Control

Brush control refers to the removal of a shrub or tree overstory to release the grass and forb understory from the effects of competition for soil nutrients and water. The techniques involved in brush control generally fall into one of three categories: burning, chemical, or mechanical.

Burning involves the use of fire under prescribed conditions to change the character of the vegetative community. This technique takes advantage of the relative fire tolerance between plant species. Prescribed burning is most useful in removing a dominant fire sensitive overstory species, such as big sagebrush, thereby opening up the community to the natural response of fire tolerant grasses, forbs and shrubs. Prescribed fire can also be useful in preparing a seedbed for artificial reseeding. The main disadvantage to prescribed burning is its harsh initial impact on the site. Initially, ground cover is greatly reduced, erosion potential is increased, wildlife habitat is reduced and forage production is decreased. Re-establishment of vegetation on the site can be quite slow but usually results in increased productivity, palatability and species diversity while erosion potential is decreased over pretreatment levels. The cost of prescribed burning is low compared to other techniques.

Chemical treatments involve the use of ground or aerially applied herbicides to target species to reduce their competitive effect on more desirable species. Many classes of herbicides exist and they all vary in action, selectivity, and persistence. However, relatively few compounds are approved for use in brush removal on public lands. These compounds are usually selective for broadleaf vegetation and leave only grasses and tolerant forb and shrub species after treatment. If, for instance, the target species is sagebrush, few species other than grasses will exist immediately following application. However, by the next growing season the seed source for other species will begin to express itself as a result of reduced overstory competition. Generally by the end of the first complete growing season, increased understory productivity and species diversity are evident. Chemical treatments have less total impact on the site than burning or mechanical treatments but are usually more expensive than burning. In addition, the seedbed resulting from a chemical treatment is usually not as suitable for reseeding due to the amount of standing litter.

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Mechanical treatments involve the use of agricultural equipment to simply remove the overstory or to consume the entire community and leave a suitable seedbed. Techniques and implements are highly variable but all share the disadvantage of high cost.

All of the above brush control techniques can be used to prepare a seedbed suitable for artificial reseeding. Where needed, reseeding is a viable technique to establish a more desirable plant community. However, seed and application costs can be high and are sometimes difficult to prove cost effective. Wherever possible, techniques used and sites chosen on the resource area will be those that lend themselves to natural regeneration.

Vegetation manipulation (controlled burning, mechanical treatment, artificial seeding, etc.) will generally be designed in irregular patterns creating more "edges," with islands of vegetation left intact for cover, with the exception of drainages where active channel incision is occurring or in areas where saline or sodic soils are present. Manipulation proposals are handled on a case-by-case basis, followed with animal control to ensure re-establishment of vegetation.

Reservoirs

Reservoirs are constructed by heavy earth-moving equipment that is used to build dikes across drainages. The impoundments created are designed to catch temporary runoff or permanent streamflow to provide a more reliable source of water for livestock and wildlife. Design requirements are determined mainly by the nature and amount of source water. Where permanent flow exists, or in critical wildlife areas, reservoirs will be fenced and off-site watering facilities (troughs) will be installed. This will provide riparian habitat, reduce silt load entering the reservoir, and increase waterfowl survival.

Water will be provided for wildlife in appropriate habitat areas (spring/summer/fall habitat areas). Whenever possible, water will be provided in allotments (including rested pastures) during seasonal periods of need for wildlife.

Wells

Wells are usually drilled in areas where other water sources are unavailable to provide a reliable water source for livestock and wildlife. Drinking troughs will be installed near the well and will be modified to serve young and mature animals as well as small game and birds. Well sites will be selected based on geologic well site investigations.

Springs

Spring sources are usually developed with a backhoe or other implement designed to expose the aquifer. Source points are gathered into a central point or head box through a perforated pipe and diverted into a pipeline or drinking trough. The spring source will be fenced for protection and to provide riparian habitat. A wildlife drinking trough may be located within the enclosure. The livestock trough will be located outside the enclosure and will also be modified for use by wildlife. All spring developments will be managed as a closed system.

Water Pipelines

Pipelines consist of plastic, usually polyethylene, pipe buried by mechanical pipe laying implements to a depth necessary to maximize the life and efficiency of the pipe material. Pipelines originate at spring sources or wells and are used to distribute water to unserved

areas. Drinking troughs are situated along the pipeline, usually no more than one mile apart, to distribute use throughout the area.

Fences

Fences are constructed to provide management boundaries such as to provide pastures or outside boundaries for a grazing allotment. Because of the potential for impact to wildlife movement, fence design is highly variable. Wire would be smooth, barbed, mesh, or combined, dependent on the wildlife species involved. Steel line posts will be spaced a minimum of 16.5 feet apart. Wooden braces will usually be spaced ¼ mile apart. Fences may be modified in heavy snow or animal migration areas by using wood poles.

Cattleguards

Cattleguards will be installed where fences cross heavily traveled roads or in situations where opened gates would severely compromise management. Cattleguard grids vary in weight and size requirements, but usually require a backhoe to install.

Noxious Weed Guidelines

Chemical treatment by spray application within 100 feet of perennial streams would be prohibited. If riparian vegetation exceeds 100 feet, this buffer would be expanded to make certain this vegetation is not destroyed. Noxious weeds may be treated in accordance with the Rock Springs District Noxious Weed EA (WY-049-EA82-64) and Northwest Area Noxious Weed Control Program EIS.

Aerial application of chemicals would not be allowed within ¼ mile of special status plant locations.

Hand application will be prohibited within 500 feet of special status plant locations.

The County Weed and Pest Supervisors will consult with the BLM Authorized Officer prior to initiation of any site-specific treatment projects.

The County Weed and Pest Supervisor with the BLM Rock Springs District will develop a water monitoring plan for any riparian treatment area prior to chemical applications. For management purposes, riparian habitat is the on-site vegetation found immediately adjacent and subject to the influences of surface and subsurface waters from streams, rivers, or standing bodies of water.

Monitoring

All chemical treatment sites will be re-evaluated by the County Weed and Pest Supervisors and the BLM Authorized Officer one and two years, respectively, after treatment to ascertain the effectiveness of the treatment program. If re-treatment is necessary, County Weed and Pest Supervisors in cooperation with the BLM Rock Springs District will develop a re-treatment program.

Aerial Application

All aerial application, particularly near live water (ponds or lakes), would require the direct consultation and approval of an Authorized Officer of the Rock Springs District prior to the action. An unsprayed buffer zone of 100 feet will be maintained near live or still water. Spray areas will be irregular in shape.

Vehicular Mounted Boom Sprayers and Hand Spray Gun

Vehicular mounted boom sprayers and hand spray guns would mostly be used in nonriparian zones, accessible by vehicle. Near live

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or still water areas, the spray boom would only be used where feasible. With both methods, sprays would be applied at a height of 1.5 to 2 feet when wind velocity is below 7 mph, except in riparian areas where treatment would only be conducted when wind velocity is below 4 mph.

Wipe Application Method for Liquid Formulations

Wipe application would be used near live water and other aquatic sites, particularly environmentally sensitive areas, and where weeds overhang waterways. The herbicide solution would be wiped on the individual plants to be controlled. All herbicide application near water areas described in Appendix 12 of the Designated Noxious Weed Control EA would require consultation and approval by the BLM Authorized Officer prior to initiation of treatment. A buffer zone or distance designated by the BLM Authorized Officer after consultation with the appropriate County Weed and Pest Supervisor would be maintained near these waters.

Chemical spraying in riparian areas will not be allowed without prior approval of the authorized officer. All spraying will follow guidelines in appropriate BLM Manuals.

As an ongoing part of the program, the BLM will consider the re-invasion of noxious weeds in the design and implementation of grazing systems.

Chemical treatment and applications will be used only where national guidelines and demonstrated protection can be exercised to prevent unwanted destruction of desirable fauna or flora and to prevent transportation of these chemicals to other areas by water or air movement. Edge effect will be maximized by following natural contours and terrain features.

Grazing of treated areas would be deferred for at least two growing seasons.

Allow no surface-disturbing construction of range improvements if high seasonal soil moisture would result in excessive rutting of roads, etc. The period from March 15 to May 1 is typically unsuitable for surface-disturbing activity.

Prescribed Burn Treatment Guidelines

Prescribed fire will generally be the preferred method of vegetation manipulation to convert decadent stands of brushland to grasslands and to stimulate sprouting of old, decadent aspen stands and/or shrub species. Prescribed burns are preferred in areas having greater than 35 percent sagebrush composition, 20 percent desirable grass composition, and greater than 10 inches of precipitation. Other vegetation manipulation methods will be considered on a case-by-case basis depending on objectives and cost benefits.

Prescribed burns would be conducted in crucial antelope and mule deer winter ranges or sage grouse nesting areas only if habitat values would improve for these species. A site specific analysis would be conducted prior to any treatments. Areas with a significant amount of antelope bitterbrush (*Pursia tridentata*) will be examined and evaluated before prescribed burns are conducted. Burns will be conducted in conditions that support the objective. Edge effect will be maximized by burning in a mosaic pattern whenever possible. Unplanned fires that occur in areas with an approved fire prescription will be allowed to burn as long as they remain within the prescriptions and meet land use objectives. Individual, decadent aspen stands may be burned to promote sprouting and encourage regeneration. Each planned burn will be evaluated and examined in relation to multiple use objectives.

Each alternative has identified the number of acres suitable for prescribed fire to increase forage production. The acreage figures were derived from computer-generated data (Geographic Information System and satellite imagery) which overlaid precipitation zones, crucial wildlife ranges, and areas with greater than 35 percent brush canopy. Development of AMPs and other activity plans will further refine the acreage according to livestock grazing, wildlife, and other resource objectives. Some allotments have very small acreages available for prescribed burns. Because of the high cost to burn such small areas, they are not likely to be treated. Other allotments containing large acreages may not receive the total projected burn acreage due to resource considerations (e.g., sage grouse nesting areas, erodible soils, or other factors). Acreages of prescribed burns may increase or decrease on certain allotments depending on rangeland management needs as addressed in AMPs and other activity plans.

Chemical Treatment Guidelines

Chemical treatment and applications will be used only where control can be exercised to prevent unwanted destruction of desirable flora or fauna and to prevent transportation of chemicals to other areas by water or air movement. Specific methods of application would be used for the control of noxious weeds and the reduction of sagebrush canopies that have increased to undesirable levels. Sagebrush control areas will be limited to a maximum size of 160 acres. Edge effect will be maximized by following natural contours and terrain features.

Wipe application methods may be used along the streams that are Colorado River trout habitat and in the special habitat improvement program areas in the planning area provided no adverse impacts occur to these resources.

Method of control of designated noxious weeds near threatened and endangered plant sightings will be determined by the BLM.

Biological treatment (insects) will be considered to weaken and limit reproduction of noxious weeds in critical riparian areas or areas with sensitive plants and animals where application of chemicals is not feasible. Any insects used for noxious weed control must have been carefully tested for host specificity, thus reducing or eliminating possible adverse effects on native vegetation.

Mechanical Treatment Guidelines

Mechanical vegetation treatment (chaining, ripping, pitting, etc.) will be considered to alter existing vegetation. Mechanical treatments will be examined on an individual basis in relation to multiple use objectives.

All brush control projects will involve site specific environmental analysis; coordination with affected livestock operators and the WGFD; and will consider objectives for other resource uses including livestock, wildlife, and watershed.

Proper Functioning Condition Guidelines

Table A9-2-1 has been created to guide the activities in the GRRA.

The establishment of allowable use levels of key species is supported by studies published by the Bureau of Land Management and the U.S. Forest Service. The allowable use levels of key species for this area are supported by utilization studies conducted in the grazing allotments.

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One goal of establishing utilization standards of key species or riparian areas is not to focus on what is taken, but what is left and what is present on the banks at high flow. These guidelines will aid in management of the residual component and functions of the riparian areas.

The utilization guidelines in Table A9-2-1 are considered best management practices which, when implemented, will help achieve proper functioning condition for riparian areas. These guidelines will be coordinated with Desired Plant Community objectives that will be developed for all habitats.

Technical Report 1737-4, also referenced in TR 1737-9, states that utilization targets or guidelines are a tool that can be used to help ensure that long-term objectives are met. The establishment of utilization limits in riparian habitat is the primary management tool that will be used to achieve proper functioning condition. Other management actions may be necessary to accomplish objectives for riparian condition on a site specific basis. As stated earlier, riparian habitat in proper functioning condition is the minimum acceptable status or level within the Green River Resource Area.

TABLE A9-2-1
UTILIZATION GUIDELINES FOR PROPER FUNCTIONING CONDITION

STREAM RATING CATEGORY	UTILIZATION RANGES OF KEY SPECIES ALLOWABLE USE BY CATEGORY GRAZING OCCURRENCE		
	Every Year	1 out of 2	1 out of 3
Proper Functioning Condition	0 to 40%	0 to 50%	0 to 50%
Functional Condition at Risk, Trend Up	0 to 30%	0 to 40%	0 to 40%
Functional Condition at Risk, Trend Not Apparent	0 to 20%	0 to 30%	0 to 40%
Functional Condition at Risk, Trend Down	0 to 10%	0 to 20%	0 to 30%
Non-Functioning	0	0 to 10%	0 to 20%
Unknown at Present	40%	40%	40%

IMPLEMENTATION OF GRAZING USE

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Allotment Number	Allotment Name	Public Land (ac)	Decision or Active Preference	Agreement Date	Season of Use	Grazing System		Average 5-Year Use (AUMs)	Comments
						Implemented EIS/RPS Proposed	Implemented and/or Decision		
03000	Gold Creek	20,411	2,501	AMP-1983*	S, F	4PAG	4PRR	2,216	
03016	Fourth of July	9,791	836	AMP-1979	Sp,S,F,W	DR		840	AMP-use not yearlong
03028	Eden Project	27,664	2,870	DMD-1985	Sp, S, F	None	None	2,365	Taken back from BOR in 1985
03202	Juel Place	2,281	301	ROD-1979	S	NS		301	
03203	Spicer Group	345	29	ROD-1979	S	NS		29	
03204	Grass Creek	1,773	220	ROD-1979	S, F	NS		220	
03206	Pulley Place	113	2	ROD-1979	S	NS		2	
03207	Pacific Springs	271	29	ROD-1979		NS		29	
03214	Johnson Place	54	10	ROD-1979	Sp, S	NS		10	
03215	Cookston Ranch	79	4	ROD-1979	S	NS		4	
03303	Jenson Meadows	959	97	ROD-1979	S, F	NS		97	
03304	Big Sandy Ranch	210	20	ROD-1979		NS		20	
03307	Hay Meadow	80	91	ROD-1979		NS		89	
03404	Richie Pasture	17	6	ROD-1979	S	NS		6	
04001	Circle Springs	8,875	946	ROD-1983	Sp,S,F,W	SSR		488	Allotment-use not yearlong
04002	Rife	21,783	1,458	GP-1988	Sp, S, F	NS	2PDR	758	Grazing plan for livestock conv.
04003	Vermillion Creek	139,551	12,409	AMP-1986	Yearlong	DSG	NC	10,000	
04004	Alkali Creek	26,855	2,283	ROD-1983	Sp, F	NS		873	
04005	Crooked Wash	10,953	2,292	ROD-1983	W	DR		1,145	
04006	Horseshoe Wash	7,086	607	ROD-1983	W	DR		302	AMP not implemented yet
04007	Pine Mountain	60,961	7,763	AMP-1988	Sp,S,F,W	SSR	3PDR	3,515	AMP not implemented yet
04008	Red Creek	53,380	3,932	AMP-1987	Sp, S, F	3PRR	4PRR	2,084	AMP-use not yearlong
04009	Salt Wells	43,075	2,618	AMP-1985	Sp, S, F	SSR	3PDR	2,128	
04010	Sugarloaf	75,940	5,223	ROD-1983	Yearlong	SSR		3,184	AMP-not implemented yet
04011	Spring Creek	36,917	4,070	AMP-1986	Yearlong	3PRR	4PDR	3,443	
04012	Henrys Fork	306,143	30,358	AMP-1978*	Yearlong	2PDR	NC	25,873	6 pastures, 2 have winter use
04013	Hickey Mountain	6,566	678	ROD-1983	Sp, S, F	DR		678	AMP not implemented yet
04014	Larsen	1,036	112	ROD-1983	S, F	NS		112	
04015	Stag Hollow	1,889	378	ROD-1983	Sp, S, F	NS		378	
04016	Donohoo	945	176	AMP-1985*	S	2PDR	NC	176	
04017	Poison Creek	699	134	ROD-1983	Sp, S	NS		134	
04018	Bald Hills	5,087	925	ROD-1983	Sp, S, F	DR		847	AMP not implemented yet
04019	Hanks	3,393	593	ROD-1983	Sp, S	DR		593	AMP not implemented yet
04020	Hisey Hollow	865	71	ROD-1983	Sp, S	NS		71	
04021	Cedar Point	1,440	162	ROD-1983	Sp, S	NS		162	
04022	Antelope	7,847	461	ROD-1983	Sp, S	2PDR		426	AMP not implemented yet
04023	Circle Bar	646	120	ROD-1983	F	NS		120	
04024	Sage	2,410	209	ROD-1983	Sp, S	NS		208	
04025	Cottonwood Creek	4,557	436	ROD-1983	Sp,S,F,W	2PDR		436	Allotment-use not yearlong
04026	Peoples Canal	1,235	50	ROD-1983	Sp, S	NS		51	
04027	Mellor Mountain	62,046	6,101	ROD-1983	Sp, S, F	SSR		3,148	AMP - not implemented yet
13001	White Acorn	41,722	3,382	AMP-1980	Sp, S, F	2PAG & 3PRR	3PDR & 2PRR	2,964	

IMPLEMENTATION OF GRAZING USE (Continued)

Allotment Number	Allotment Name	Public Land (ac)	Decision or Active Preference	Agreement Date	Season of Use	Grazing System		Average 5-Year Use (AUMs)	Comments
						Implemented EIS/RPS Proposed	Implemented and/or Decision		
13002	Little Prospect	77,078	6,009	AMP-1981	Sp, S, F	2PAG & 3PRR	3PDR & 1PRR	3,859	
13003	Little Sandy	99,981	7,753	AMP-1982*	Sp, S, F	2PAG & 3PRR	4PDR	6,135	BOR 3,164 Ac
13004	Prospect Mountain	43,959	4,348	AMP-1983*	Sp, S, F	2PAG & 3PRR	6PDR & SDLI	3,133	
13005	Poston	45,996	3,905	AMP-1981	Sp, S, F	3PRR	3PDR & SDLI	1,901	
13006	Reservoir	18,239	1,960	AMP-1983*	Sp,S,F,W	3PRR	2PDR	1,176	BOR 12,779 Ac, AMP-use not yearlong
13007	Pacific Creek	195,116	9,010	AMP-1985*	Sp,S,F,W	PRR	2PDR	2,309	AMP-use not yearlong
13008	Bar X	4,234	468	AMP-1983*	Sp,S,F,W	3PDR	NC	439	AMP-use not yearlong
13009	Fish Creek	6,416	362	AMP-1984*	Sp, S	2PAG	NC	254	
13010	Pine Creek	16,592	1,344	AMP-1980	Sp, S, F	3PRR	2PDR	1,208	
13011	Continental Peak	81,872	6,384	AMP-1984*	Sp,S,F,W	3PRR	SDLI & HC	3,171	AMP-use not yearlong
13012	Red Desert	243,676	10,596	AMP-1984*	Sp,S,F,W	3PRR	6PDR	1,716	AMP-use not yearlong
13013	Bush Rim	93,038	4,137	AMP-1984*	Sp,S,F,W	3PRR	5PDR	1,136	AMP-use not yearlong
13014	Steamboat Mountain	24,498	948	AMP-1979	Sp,S,F,W	2PDR	NC	851	AMP-use not yearlong
13015	Sands	105,082	4,239	AMP-1983*	Sp,S,F,W	3PRR	3PDR	3,860	AMP-use not yearlong
13017	18-Mile	228,840	18,994	AMP-1983	Sp,S,F,W	3PRR	2PDR	6,900	BOR 14,895 Ac, AMP-use ot yearlong
13018	Rock Springs	956,682	109,442	ROD-1983	Yearlong	NS	NC	52,000	
13019	Sandy Pasture	1,601	180	ROD-1979	Sp, S	NS	NC	134	
13020	Buckskin Sandy	8,508	687	AMP-1983	Sp, S, F	NS	2PDR	191	
13021	Mack Flat	1,108	77	ROD-1979	Sp, S, F	NS	77		
13022	Lombard	21,112	6,643	AMP-1983*	Sp,S,F,W	3PRR	3PDR & SDLI	5,800	BOR 73,690 Ac
13023	Figure Four	114,425	6,644	AMP-1980	Sp,S,F,W	3PRR	2PDR	1,969	AMP-use not yearlong
1324	Big Sandy	59,140	4,126	AMP-1981	Sp,S,F,W	3PRR	1PDR	696	BOR 1,732 Ac
13025	Highway-Gasson	82,201	5,208	AMP-1982*	Sp,S,F,W	3PRR	2PDR	3,575	BOR 14,113 Ac, AMP-use not yearlong
13026	Boundry	29,995	2,996	AMP-1981	Sp,S,F,W	3PRR	3PDR & SDLI	1,604	AMP-use not yearlong
13027	Sublette	66,029	6,004	AMP-1983	Sp,S,F,W	3PRR	2PDR	5,358	BOR 2,473 Ac, AMP-use not yearlong
13100	Jack Ranch	100	8	ROD-1979	S, F	NS		4	
13101	Upper White Acorn	37	5	ROD-1979	Sp, S, F	NS		5	
13102	McCann Ranch	16	2	ROD-1979	S	NS		2	
13103	Eaton Place	81	10	ROD-1979	Sp, S, F	NS		10	
13104	Long Draw	2,076	208	ROD-1979	S, F	NS		208	
13105	Erramouspe	1,295	86	ROD-1979	S	NS		86	
13106	Dewey Place	67	9	ROD-1979	S	NS		9	
13107	Middle Hay	298	16	ROD-1979	NS			16	
13109	Sweetwater	170	11	ROD-1979	Sp, S, F	NS		11	
13110	Dead Ox	109	8	ROD-1979	S, F	NS		8	
13114	Chilton Place	144	15	ROD-1979	NS			15	
13115	Houghton	263	11	ROD-1979	NS			11	
	TOTALS	3,628,024	318,647					180,362	

IMPLEMENTATION OF GRAZING USE (Continued)

LEGEND:

- (2PRR) # Pasture rest - rotation
- (4PAG) # Pasture alternately graze
- (2PDR) # Pasture deferred rotation
- (SSR) Scheduled systematic rotation
- () Rotation with 1 pasture
- () Rested yearlong
- DSG) Deferred seasonal grazing (spring)
- (SSRT) Scheduled systematic rotation in traditional use areas
- (DR) Deferred rotation
- (NS) No system
- (HCDR) # Pasture herder controls deferred rotation
- (SDLI) Short duration, low intensity
- (HC) Herder control

* = Revised AMP includes changes for EIS proposal on season of use and grazing system.

ROD = Record of Decision

DMD = District Manager's Decision

AMP = Allotment Management Plan

GP = Grazing Plan

SP = Spring

S = Summer

F = Fall

W = Winter

APPENDIX 9-4

ALLOTMENT CATEGORIZATION

SELECTIVE MANAGEMENT CRITERIA BY CATEGORY

Individual allotments were categorized based on interviews with permittees, field evaluation by BLM personnel, and identified resource use conflicts. The following criteria were considered during the allotment categorization.

These criteria were used as general guidelines, and as such, may not be totally representative of an entire individual allotment. The categorization is a dynamic process and if conflicts are identified in M category allotments, they may receive management attention through other resource activity planning (such as wildlife habitat management), or if needed, the category may be changed to I. Funding may be provided for M or C allotment improvements as priorities allow.

Maintenance Category (M)

Present range condition is satisfactory.

Allotments have moderate or high resource production potential and are producing near their potential (or trend is moving that direction).

Present management is considered satisfactory.

Riparian areas are under satisfactory management and are not in a declining trend.

No serious conflicts exist with regard to current uses of resource.

Potential may exist for positive economic returns on public investments.

Improve Category (I)

Present range condition is unsatisfactory or in a declining trend.

Allotments have moderate to high resource production potential but are producing at low to moderate levels.

Present management is considered unsatisfactory.

Riparian areas are presently in a declining trend and management is unsatisfactory.

Serious resource use conflicts may exist and controversy is at a high level.

Potential for high return on public investment exists.

Custodial Category (C)

Present range condition is variable.

Allotments have low resource production potential and are presently producing at or near their potential.

Present management appears satisfactory or is the only logical practice under existing resource conditions.

Riparian areas are either not present, or are not in a declining condition.

Limited resource conflicts and(or) controversy presently exist.

Potential for returns on public investment is low.

SELECTIVE MANAGEMENT CRITERIA BY SITUATION

Range Condition

A professional judgement criteria used when there is a lack of ecological range site data. A subjective rating of what the area is now producing as compared to its potential.

Resource Potential

A professional judgement criteria used to determine the allotment's potential (capability) to improve. This criteria is based on the potential that exists for increased forage production, either naturally or artificially.

High Potential - I

Moderate Potential - M

Low Potential - C or M

Present Management Situation

A rating of allotments based on present range management practices.

Allotment is receiving satisfactory management - M or C

Allotment is receiving unsatisfactory management - I

Riparian Areas

A judgement of whether or not riparian vegetation is declining, static, or in an upward trend.

Declining trend - I

Static or upward trend - M or C

Resource Use Conflicts and(or) Controversy

Critical wildlife habitat areas, wilderness study areas, ACECs, mining or oil and gas, and other conflicts that may exist.

Low level of conflict/controversy - M or C

High level of conflict/controversy - I

Economic Investment Potential

The potential for a positive economic return on investments.

High - I

May exist - M

Low - C

Ranking of Allotments in the Improve Category

The allotments in the improve category were ranked in priority order based upon professional judgement and problems and(or) conflicts. The current priority list was described in Appendix 9-2 of the Draft EIS.

APPENDIX 9-5

RESOURCE MONITORING AND EVALUATION OF ALLOTMENTS AND WILD HORSE HERD MANAGEMENT AREAS

Resource Monitoring and Evaluation of Allotments

1. Satisfactory grazing management and overall apparent trend is static.

Juel Place	-	03202
Spicer Group	-	03203
Pulley Place	-	03206
Johnson Place	-	03214
Cookston Ranch	-	03215
Hay Meadow	-	03307
Crooked Wash	-	04005
Horseshoe Wash	-	04006
Larson	-	04014
Hisey Hollow	-	04020
Little Prospect	-	13002
Continental Peak	-	13011
Bush Rim	-	13013
Mack Flat	-	13021
Boundary	-	13026
Jack Ranch	-	13100
Upper White Acorn	-	13101
McCann Ranch	-	13102
Eaton Ranch	-	13103
Long Draw	-	13104
Erramouspe Ranch	-	13105
Dewey Place	-	13106
Middle Hay Place	-	13107
Dead Ox	-	13110
Chilton Place	-	13114
Houghton Place	-	13115

2. Satisfactory grazing management and overall apparent trend is upward.

Grass Creek	-	03204
Jensen Meadows	-	03303
Big Sandy Ranch	-	03304
Stag Hollow	-	04015
Donohoo	-	04016
Poison Creek	-	04017
Peoples Canal	-	04026
White Acorn	-	13001
Poston	-	13005
Red Desert	-	13012
Steamboat Mountain	-	13014
Fourth of July	-	13016
Buckskin Sandy	-	13020
Big Sandy	-	13024

3. Monitoring data is inconclusive as to satisfactory grazing management and apparent trend.

Eden Project	-	03028
Circle Springs	-	04001
Rife	-	04002
Spring Creek	-	04011
Henry's Fork	-	04012
Mellor Mountain	-	04027
Eighteenmile	-	13017
Sandy Pasture	-	13019

4. Data indicates grazing management changes are needed to improve riparian area condition.

Gold Creek	-	03000
Pacific Springs	-	03207
Pine Mountain	-	04007
Red Creek	-	04008
Salt Wells	-	04009
Sugarloaf	-	04010
Hickey Mountain	-	04013
Bald Hills	-	04018
Hanks	-	04019
Cedar Point	-	04021
Antelope Wash	-	04022
Circle Bar	-	04023
Sage	-	04024
Cottonwood Creek	-	04025
Little Sandy	-	13003
Bar-X	-	13008
Fish Creek	-	13009
Pine Creek	-	13010
Sands	-	13015
Lombard	-	13022
Highway-Gasson	-	13025

5. Data indicates grazing management changes are needed to improve rangeland condition.

Alkali Creek	-	04003
Vermillion Creek	-	04003
Prospect Mountain	-	13004
Figure Four	-	13023
Sublette	-	13027
Sweetwater	-	13109

6. May need minor revision in grazing management to improve riparian area condition.

Rock Springs	-	13018
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Resource Monitoring and Evaluation of Wild Horse Herd Management Areas

1. Divide Basin Wild Horse Herd Management Plan Area

These grazing allotments appear to be in fair to good condition with much of the vegetation and erosion objectives being met. The overall herd objectives of diverse age, color, sex, and general good health condition have been reached and are being maintained.

2. White Mountain Wild Horse Herd Management Area

The vegetative trend in the Highway Gasson and Lombard Allotments is upward in all key areas while the trend of vegetation on most checkerboard land of the Rock Springs Allotment appears to be static. The White Mountain wild horse herd is healthy and viable. Although not stated in the management plan, this herd has been managed to promote or increase horses with paint and appaloosa coloring.

APPENDIX 9-5

3. Desert Common/Figure 4 Wild Horse Herd Management Area Plan

The vegetative trend of all key species is down in the western third of the allotment. Key areas in the eastern portion of the allotment are exhibiting a slightly upward or static trend. The trend of riparian communities along the Green River appears to be static or downward. Wild horses are not causing resource damage because they are rarely present in the allotment. There is currently very little opportunity to manage sex, color, and age classes of wild horses in the Figure 4 Allotment.

4. Adobe Town Wild Horse Herd Management Area

Range condition in the Green River Resource Area portion of the Adobe Town WHMA appears to be stable and in good

condition. Herd populations within the planning area portion have been maintained at or near the desired levels.

5. Salt Wells Creek Wild Horse Herd Management Area

Range conditions appear to be static in most areas that are affected by wild horse populations, but some areas that have seen consistent concentrations of wild horses during the growing season, appear to have experienced diminishing plant vigor and composition. Herd populations have remained at or near objective levels since institution of wild horse gathering.

APPENDIX 9-6

RESOURCE CONFLICTS/POTENTIAL CONFLICTS IN ALLOTMENTS

Allotment Name	Allotment Number	Specific Conflict/Problem
I Category Allotments		
Gold Creek	03000	1,2,3,4,5,6,7,9,14,15,16,17,22,23,25,35
Circle Springs	04001	1,2,4,6,8,9,10
Vermillion Creek	04003	2,8,10,11,12,13,21,22
Alkali Creek	04004	1,10,12,13,22
Crooked Wash	04005	12,13,22
Horseshoe Wash	04006	12,13,22
Pine Mountain	04007	1,2,3,6,7,12,14,15,16,17,18,19,22
Red Creek	04008	1,2,3,4,6,7,8,12,18,19,20,22
Salt Wells	04009	1,2,3,6,7,8,10,19
Sugarloaf	04010	1,2,3,4,7,8,12,17,18,19
Spring Creek	04011	1,2,4,8,12,19
Henry's Fork	04012	1,2,6,7,8,12,13,18,20
Hickey Mountain	04013	1,4,7,8,18,21
Bald Hills	04018	1,8
Hanks	04019	1,2,6,8
Antelope Wash	04022	1,2,5,8
Circle Bar	04023	1,2,5,8,22
Sage	04024	1,2,5,8,22
Cottonwood Creek	04025	1,2,5,8,22
Mellor Mountain	04027	1,2,10,14,15,16
Little Prospect	13002	1,2,4,5,7,8,9,14,15,16,17,26,35
Little Sandy	13003	1,2,4,7,8,9,12,16,17,21,22,23,25,26,34
Prospect Mountain	13004	1,2,3,5,7,8,12,14,15,16,17,23,25
Poston	13005	1,2,5,7,8,16,26,27
Fish Creek	13009	1,2,4,5,7,14,16,23,25,26
Pine Creek	13010	1,2,3,5,7,9,15,18,22,23,25
Steamboat	13014	1,2,7,15,16,17,19
Sands	13015	1,7,17,15,16,20,21,28
Fourth of July	13016	7,15,16,19
18 Mile	13017	1,2,7,10,12,16,21,26,29
Lombard	13022	1,2,3,5,7,10,16,21,26,29
Figure Four	13023	1,2,8,10,12,14,16,21,26
Highway Gasson	13025	1,2,3,7,10,12,16,21,26,27,29,30
Sublette	13027	10,12,16,26,31
Sweetwater	13109	1,25,31
M Category Allotments		
Rife	04002	1,2,10
Larson	04014	4
Stag Hollow	04015	8
White Acorn	13001	1,2,5,7,8,9,14,15,16,17,23,35
Reservoir	13006	1,2,3,5,7,8,12,16,26,29,33,
Pacific Creek	13007	1,2,7,9,10,12,16,17,26,29
Bar X	13008	1,2,3,5,7,8,9,23,33,35
Continental Peak	13011	1,2,4,5,7,9,10,14,15,16,17,19,20,35
Red Desert	13012	1,2,4,7,8,9,10,16,17,20,35
Bush Rim	13013	1,2,4,7,8,9,10,16,17,20,35
Rock Springs	13018	1,7,8,10,12,20,21,29,32
Sandy Pasture	13019	1,4,5,8,14
Buckskin Sandy	13020	1,5,8,14
Big Sandy	13024	1,10,12,16,26,29
Boundary	13026	8,10,16,26

APPENDIX 9-6

RESOURCE CONFLICTS/POTENTIAL CONFLICTS IN ALLOTMENTS

Allotment Name	Allotment Number	Specific Conflict/Problem
C Category Allotments		
Juel Place	03202	1,3,5,35
Spicer Group	03203	34
Grass Creek	03204	1,4,5,9,14,15,17,23,35
Pulley Place	03206	2,29,35
Pacific Springs	03207	1,7,10,16,25,33,35
Johnson Place	03214	1
Crookston Ranch	03215	1,7,10,12,34
Jensen Meadows	03303	1,4,7,14,15,16,17,35
Big Sandy Ranch	03304	1,3,5,7,14,15,23,35
Hay Meadow	03307	1,7,10,16,25,33,35
Richie Pasture	03404	35
Donohoo	04016	35
Poison Creek	04017	36
Hisey Hollow	04020	5,8,26
Cedar Point	04021	1,35
Peoples Canal	04026	5,8
Mack Flat	13021	1,3,5,14,15,17,35
Jack Ranch	13100	1,5,9,23,35
Upper White Acorn	13101	4,15,35
McCann Ranch	13102	7
Eaton Ranch	13103	1,12,16,29,33,35
Long Draw	13104	1,3,5,14,15,17,35
Erramouspe Ranch	13105	1,3,5,7,9,23,33,35
Dewey Place	13106	1,35
Middle Hay Place	13107	35
Dead Ox	13110	1,5,7,23,35
Chilton Place	13114	1,4,8,9,10,12,14,15,16,17
Houghton Ranch	13115	7,34
Eden Farson		1,2,3,12,14,16,18,26,29,33,35

KEY TO APPENDIX

Number in Table	Specific Conflict/Problem	Number in Table	Specific Conflict/Problem
1.	Riparian areas present	18.	Threatened or endangered species
2.	Important watershed	19.	ACEC
3.	Fishery present	20.	Wilderness areas
4.	Crucial elk winter range	21.	Oil and gas
5.	Crucial moose winter range	22.	Noxious and poisonous plants
6.	Salting stations	23.	Yearlong moose range
7.	Recreation use	25.	Range condition
8.	Crucial deer winter range	26.	Sage grouse leks
9.	Summer antelope range	27.	Antelope migration route
10.	Wild horse range	28.	Coalbed methane
11.	Heavy winter utilization	29.	Bureau of Reclamation lands present
12.	Crucial antelope winter range	30.	Trona activity
13.	Supplemental feeding taking place	31.	Heavy upland utilization
14.	Year round deer range	32.	Coal production
15.	Year round elk range	33.	Important waterfowl area
16.	Year round antelope range	34.	Minor soil problems
17.	Elk calving areas	35.	Wildlife area

APPENDIX 9-7

MANAGEMENT CATEGORIES FOR ALLOTMENTS NOT PREVIOUSLY CATEGORIZED

Allotment Name	Allotment Number	Category	Criteria
Gold Creek	03000	I	10, 11, 12
Eden Project	03028	No category at this time	
Juel Place	03202	C	15, 17, 18
Spicer Group	03203	C	15, 17, 18
Grass Creek	03204	C	15, 17, 18
Pulley Place	03206	C	15, 17, 18
Pacific Springs	03207	C	15, 17, 18
Johnson Place	03214	C	15, 17, 18
Crookston	03215	C	15, 17, 18
Jensen Meadow	03303	C	15, 17, 18
Big Sandy Ranch	03304	C	15, 17, 18
Hay Meadow	03307	C	15, 17, 18
Richie Pasture	03404	C	15, 17, 18
White Acorn	13001	M	1, 3, 4, 6
Little Prospect	13002	I	7, 10, 11, 12
Little Sandy	13003	I	11, 12
Prospect Mountain	13004	I	7, 10, 11, 12
Poston	13005	I	7, 12
Reservoir	13006	M	2, 3, 4, 5, 6
Pacific Creek	13007	M	4, 5, 6
Bar X	13008	M	2, 3, 4, 5, 6
Fish Creek	13009	I	11, 12
Pine Creek	13010	I	10, 11, 12
Continental Peak	13011	M	4, 5, 6
Red Desert	13012	M	4, 5, 6
Bush Rim	13013	M	4, 5, 6
Steamboat	13014	I	11, 12
Sands	13015	I	11, 12
18-Mile	13017	I	10, 11
Sandy Pasture	13019	M	3, 5, 6
Buckskin Sandy	13020	M	2, 5, 6
Mack Flat	13021	C	15, 17, 18
Lombard	13022	I	10, 11, 12
Figure Four	13023	I	7, 11, 12
Big Sandy	13024	M	2, 3, 5, 6
Highway Gasson	13025	I	10, 11, 12
Boundary	13026	M	3, 5, 6
Sublette	13027	I	7, 11, 12
Jack Ranch	13028	C	15, 17, 18
Upper White Acorn	13100	C	15, 17, 18
McCann Ranch	13102	C	15, 17, 18
Eaton Ranch	13103	C	15, 17, 18
Long Draw	13104	C	15, 17, 18
Erramouspe	13105	C	15, 17, 18
Dewey Place	13106	C	15, 17, 18
Middle Hay	13107	C	15, 17, 18
Sweetwater	13109	I	7, 9, 10, 11
Dead Ox	13110	C	15, 17, 18
Chilton Place	13114	C	15, 17, 18
Houghton	13115	C	15, 17, 18

MANAGEMENT CATEGORIES FOR ALLOTMENTS NOT PREVIOUSLY CATEGORIZED (Continued)

Key to Appendix

CRITERIA BY CATEGORY

Maintenance Category (M)

1. Present range condition is satisfactory.
2. Allotments have moderate or high resource production potential and are producing near their potential (or trend is moving in that direction).
3. Present management is considered satisfactory.
4. Riparian areas are under satisfactory management and area not in a declining trend.
5. No serious conflicts exist with regard to current uses of resource.
6. Potential may exist for positive economic returns on public investments.

Improve Category (I)

7. Present range condition is unsatisfactory or in a declining trend.
8. Allotments have moderate to high resource production potential but are producing at low to moderate levels.
9. Present management is considered unsatisfactory.
10. Riparian areas are presently in a declining trend and management is unsatisfactory.
11. Serious resource use conflicts may exist and controversy is at a high level.
12. Potential for high return on public investment exists.

Custodial Category (C)

13. Present range condition is variable.
14. Allotments have relatively low resource production potential and are presently producing at or near their potential.
15. Present management appears satisfactory or is the only logical practice under existing resource conditions.
16. Riparian areas are either not present, or are not in a declining condition.
17. Limited resource conflicts and/or controversy presently exist.
18. Potential for returns on public investment is low.

Allotment Categorization

Presently, the Green River Resource Area contains 51 allotments not previously placed in management categories. Twenty-four of these allotments have operating allotment management plans (AMPs) that have been in place since 1980-1981. The other 27 allotments were classified as custodial allotments under the Sandy Grazing EIS. These allotments are small and in many cases contain very little public land.

In examining the 24 allotments for categorization, the Resource Area range staff first considered establishing new criteria as allowed in the supplemental program guidance. Several ideas were discussed and dropped. The decision to use the established criteria was partly because the 27 non-AMP allotments could not be fitted into new criteria. Appendix 9-6 shows the management category for each allotment as well as the criteria used to make that determination. Allotment summaries and available monitoring data were used to categorize allotments. Criteria shown in Appendix 9-6 for each allotment were the only criteria used in determination of management categories for these allotments.

APPENDIX 10

SOCIOECONOMIC TABLES & GRAPHS

APPENDIX 10-1

ANNUAL VISITOR USE AND RELATED EXPENDITURES

Subject	Number of Recreation Days ¹	\$ Value/Day	Total \$ Value
Hunting	54,792	85.25	\$4,670,869
Fishing	4,000	40.65	162,600
Boating	400	32.00	12,800
Other Water-Based	1,542	32.00	49,344
ORV Travel	2,292	32.00	73,344
Other Motorized	2,083	32.00	66,656
Snowmobiling	2,917	32.00	93,344
Other Winter Sports	500	32.00	16,000
Non-Motorized Travel	3,208	32.00	102,656
Camping	4,208	32.00	134,656
Site-Based Recreation	1,375	32.00	44,000
Non-Consumptive Wildlife ²	277,127	32.00	8,868,064
Flaming Gorge Activity ³	17,295	32.00	553,440
TOTAL	371,739		\$14,847,773

¹ Source: Resource Area RMIS count for all but hunting, non-consumptive wildlife, and Flaming Gorge activity. Hunting information was derived from Wyoming Game and Fish Department annual harvest reports. In this analysis, a recreation day is a 24-hour period in which the participant engaged in the specific recreational activity of part, or all, of the period. Since the BLM uses a 12-hour day to measure non-consumptive recreation and the WGFD regards any 24-hour period in which recreation occurred as a recreation day, it is difficult to compare/combine consumptive and non-consumptive data for an analysis such as this. The non-consumptive activities tend to be undervalued, resulting in less value for the total recreational sector as well as less comparative value for non-consumptive when measured against consumptive recreational activities. Therefore, while this is the best approximation that can be made of the direct contribution of recreation to the area economy, it is only an approximation.

² Counting every person who visits public lands, recording the purpose of their visit, and the length of time of the visit - is simply impossible. Therefore, the numbers used in this analysis are estimates based on the best available information. Probably the largest "gray area" comprises the categories of sight-seeing, driving for pleasure, other motorized travel, and wildlife watching. These categories overlap to a great extent.

Average daily traffic counts are available from the Wyoming Department of Transportation for the key roads in the Resource Area. However, those figures do not break out resident vs. non-resident or commercial (other than large trucks) vs. commuters vs. travelers from out of the area passing through vs. driving for pleasure. The numbers used here are based on figures published by the Wyoming Game and Fish Department for non-consumptive wildlife for 1990. The 277,127 visitor days were arrived at by taking 5.8 percent of the statewide total as that is the ratio of BLM-administered public lands in the Green River Resource Area to the size of the entire state.

³ Flaming Gorge Reservoir in the Flaming Gorge National Recreation Area is the primary recreation destination in southwest Wyoming. The Wyoming portion of Flaming Gorge is "land-locked" or surrounded by BLM-administered public lands. The numbers used here are derived from recreation data gathered by the Ashley National Forest. The 17,295 visitor days were arrived at by taking 15 percent of the Wyoming portion of visitation on the Recreation Area as the approximate percentage of a day a visitor to the Recreation Area would spend on BLM-administered public lands.

APPENDIX 10-2

TOTAL POPULATION: PAST, PRESENT, PROJECTED

Year	Wyoming	Individual Counties					Total of Counties	Counties as % of All Wyoming
		Fremont	Lincoln	Sublette	Sweetwater	Uinta		
1980	469,557	38,992	12,177	4,548	41,723	13,021	110,461	23.52451
1981	491,755	39,309	13,254	4,880	44,288	16,280	118,011	24.03429
1982	506,423	38,492	14,031	5,145	45,752	19,721	123,141	24.12822
1983	510,361	38,691	14,110	5,181	44,714	21,652	124,348	24.36471
1984	504,923	37,968	14,111	5,256	42,477	22,562	122,374	24.23617
1985	499,719	36,995	14,319	5,519	42,773	22,351	121,957	24.40512
1986	495,659	35,797	14,384	5,962	44,222	22,385	122,750	24.76501
1987	477,005	34,844	13,658	5,358	42,118	20,883	116,861	24.49891
1988	465,135	34,388	12,875	4,859	40,080	19,596	111,798	24.03560
1989	458,400	34,192	12,552	4,714	39,246	19,218	109,922	23.97949
1990	453,588	33,662	12,625	4,843	38,823	18,705	108,658	23.95522
1991	459,452	34,399	12,925	4,961	40,077	19,336	111,698	24.31114
1992	466,190	34,620	13,080	5,010	40,740	19,810	113,260	24.29482
1993	471,800	35,020	13,270	5,070	41,490	20,200	115,050	24.38533
1994	469,210	34,800	13,230	5,030	41,520	20,240	114,820	24.47092
1995	471,710	34,960	13,330	5,050	42,000	20,500	115,840	24.55746
1996	471,670	34,950	13,340	5,050	42,130	20,570	116,040	24.60195
1997	472,090	34,960	13,370	5,050	42,300	20,660	116,340	24.64561
1998	472,800	35,000	13,410	5,050	42,490	20,770	116,720	24.68697
1999	474,390	35,090	13,480	5,060	42,990	20,990	117,610	24.79184
2000	477,520	35,290	13,600	5,090	43,440	21,280	118,700	24.85760

Sources: Wyoming Data Handbook, 9th Edition, 1989, by Division of Research and Statistics, Dept. of Administration and Fiscal Control, State of Wyoming.

Wyoming Annual Planning Report 1989, Employment Security Commission of Wyoming, Research and Analysis Section, Casper, Wyoming.

Equality State Almanac, 1993, by Department of Administration and Information

APPENDIX 10-3

IN LIEU TAX PAYMENTS TO LOCAL GOVERNMENT

UNITS: FY90

County	Entitlement Acres: Total (Number)	Entitlement Acres: BLM (Number)	% BLM Is of Total Entitlement Land	Entitlement Acres: FS (Number)	% FS Is of Total Entitlement Land	Entitlement Acres: Other (Number)	% Other Is of Total Entitlement Land ¹	Prior Year Payments (\$) ²	Estimated Payment to County (\$) ²
Fremont	3,188,664	2,085,845	65	980,917	31	121,902	4	112,383	703,617
Lincoln	1,948,739	1,014,118	52	901,027	46	33,594	2	133,682	316,318
Sublette	2,432,251	1,257,449	52	1,169,374	48	5,428	0	145,636	243,225
Sweetwater	4,609,439	4,305,830	93	93,276	2	210,333	5	9,867	925,383
Uinta	567,295	528,975	93	37,762	7	558	0	8,171	417,300
Regional Total	12,746,388	9,192,217	72	3,182,356	25	371,815	3	409,739	2,605,843
State Total	29,940,729	17,511,454	58	9,249,714	31	3,179,561	11	2,374,801	6,967,863
Region As % of State Total	43	52		34		12		17	37

¹ Zero designates a number that is less than one and is too small to be rounded to one.

² Total from all sources.

Source: PAYMENTS IN LIEU OF TAXES: FISCAL YEAR 1990, by Division of Finance, U.S. Dept. of the Interior, BLM, Denver Service Center

APPENDIX 10-4

TRONA OUTPUT AND VALUATION OVER TIME (Alternative A)

Year	Output (million tons)		Value/Ton of Soda Ash (\$) ³	Direct Output Value (\$)	Resulting Economic Output (\$) ⁴
	Trona ¹	Soda Ash ²			
1990 Base Year	5	2.75	82.85		
1991	5	2.75	80	220,000,000	394,931,900
1992	5	2.75	80	220,000,000	394,931,900
1993	5	2.75	80	220,000,000	394,931,900
1994	5	2.75	80	220,000,000	394,931,900
1995	5	2.75	80	220,000,000	394,931,900
1996	5	2.75	80	220,000,000	394,931,900
1997	5	2.75	80	220,000,000	394,931,900
1998	5	2.75	80	220,000,000	394,931,900
1999	5	2.75	80	220,000,000	394,931,900
2000	5	2.75	80	220,000,000	394,931,900
2001	5	2.75	80	220,000,000	394,931,900
2002	5	2.75	80	220,000,000	394,931,900
2003	5	2.75	80	220,000,000	394,931,900
2004	5	2.75	80	220,000,000	394,931,900
2005	5	2.75	80	220,000,000	394,931,900
2006	5	2.75	80	220,000,000	394,931,900
2007	5	2.75	80	220,000,000	394,931,900
2008	5	2.75	80	220,000,000	394,931,900
2009	5	2.75	80	220,000,000	394,931,900
2010	5	2.75	80	220,000,000	394,931,900
TOTAL (1991-2010)	100	55		4,400,000,000	7,898,638,000

¹ Source: BLM, Rock Springs District and Green River Resource Area Specialists

² Source: State of Wyoming, Dept. of Administration and Fiscal Control, June, 1991. DAFC provided a 0.55 factor for converting trona to soda ash. This has been used here.

³ Value by BLM Economist, based on conversation with U.S. Bureau of Mines.

⁴ The direct, indirect, and induced economic output calculated in this column is the result of multiplying the value of soda ash listed in the previous column by a minerals output multiplier of 1.795145. This multiplier is from the input/output model for the State of Wyoming that is housed at the Dept. of Agricultural Economics, University of Wyoming.

APPENDIX 10-5

TRONA OUTPUT AND VALUATION OVER TIME (Proposed Plan, Alternative B, and Alternative C)

Year	Output (million tons)		Value/Ton of Soda Ash (\$)³	Direct Output Value (\$)	Resulting Economic Output (\$)⁴
	Trona¹	Soda Ash²			
1990 Base Year	5	2.75	82.85		
1991	5	2.75	80	220,000,000	394,931,900
1992	5	2.75	80	220,000,000	394,931,900
1993	5	2.75	80	220,000,000	394,931,900
1994	5	2.75	80	220,000,000	394,931,900
1995	6	3.30	80	264,000,000	473,918,280
1996	6	3.30	80	264,000,000	473,918,280
1997	6	3.30	80	264,000,000	473,918,280
1998	6	3.30	80	264,000,000	473,918,280
1999	6	3.30	80	264,000,000	473,918,280
2000	6	3.30	80	264,000,000	473,918,280
2001	6	3.30	80	264,000,000	473,918,280
2002	6	3.30	80	264,000,000	473,918,280
2003	6	3.30	80	264,000,000	473,918,280
2004	6	3.30	80	264,000,000	473,918,280
2005	6	3.30	80	264,000,000	473,918,280
2006	6	3.30	80	264,000,000	473,918,280
2007	6	3.30	80	264,000,000	473,918,280
2008	6	3.30	80	264,000,000	473,918,280
2009	6	3.30	80	264,000,000	473,918,280
2010	6	3.30	80	264,000,000	473,918,280
TOTAL (1991-2010)	116	63.8		5,104,000,000	9,162,420,080

¹ Source: BLM, Rock Springs District and Green River Resource Area Specialists.

² Source: State of Wyoming, Dept. of Administration and Fiscal Control, June, 1991. DAFC provided a 0.55 factor for converting trona to soda ash. This has been used here.

³ Value by BLM Economist, based on conversation with U.S. Bureau of Mines.

⁴ The direct, indirect, and induced economic output calculated in this column is the result of multiplying the value of soda ash listed in the previous column by a minerals output multiplier of 1.795145. This multiplier is from the input/output model for the State of Wyoming that is housed at the Dept. of Agricultural Economics, University of Wyoming.

APPENDIX 10-6

COMPARISON OF ALTERNATIVES: CUMULATIVE (1991-2010) SUMMARY OF ALL RESOURCES EXCEPT TIMBER^{1,2}

(values in \$000's)

SUBJECT	ALTERNATIVE A	ALTERNATIVE B	ALTERNATIVE C	PROPOSED PLAN
DIRECT OUTPUT VALUE				
Oil	2,581,912	3,367,404	2,556,053	2,551,681
Gas	5,833,686	7,619,462	5,783,608	5,794,049
Coal	6,009,725	6,298,325	5,495,425	6,009,725
Trona	4,400,000	5,104,000	5,104,000	5,104,000
Livestock Grazing ³	211,000	374,000	211,000	211,000
Recreation	296,955	421,662	359,304	390,482
TOTAL	19,333,278	23,184,853	19,509,390	20,060,937
IMPACTS ON TOTAL AREA OUTPUT⁴				
Oil	3,888,582	5,071,600	3,849,636	3,843,050
Gas	8,786,033	11,475,566	8,710,610	8,726,336
Coal	10,788,328	11,306,407	9,865,085	10,788,328
Trona	7,898,638	9,162,420	9,162,420	9,162,420
Livestock Grazing ³	596,000	1,055,000	596,000	596,000
Recreation	610,104	886,320	732,203	802,259
TOTAL	32,557,685	38,957,313	32,921,954	33,918,393
DIRECT INCOME EFFECTS⁵				
Oil	211,939	276,417	209,816	209,457
Gas	478,864	625,451	474,753	475,610
Coal	1,072,886	1,124,408	981,071	1,072,886
Trona	785,510	911,192	911,192	911,192
Livestock Grazing ³	31,000	55,000	31,000	31,000
Recreation	99,081	140,691	119,885	130,287
TOTAL	2,679,280	3,133,159	2,727,717	2,830,432
IMPACTS ON TOTAL AREA INCOME⁶				
Oil	432,279	563,791	427,950	427,218
Gas	976,711	1,275,696	968,326	970,074
Coal	1,940,348	2,033,528	1,774,297	1,940,348
Trona	1,420,619	1,647,918	1,647,918	1,647,918
Livestock Grazing ³	104,000	183,000	104,000	104,000
Recreation	153,502	217,966	185,731	201,848
TOTAL	5,027,459	5,921,899	5,108,222	5,291,406

¹ Figures in this table are expressed in \$1000 and rounded to the nearest whole number.

² Impacts listed in this table are cumulative changes over the next 20 years. Timber harvesting and additional livestock grazing options will be added to the totals from this table in a separate table which addresses their various scenarios.

³ Livestock grazing figures included here are taken from Appendix 10-7. The figures reflect the impacts based on 180,000-AUM use/level per year. The figures are included here so that an easier comparison can be made among the various resource cumulative economic impacts.

⁴ Figures in these rows were calculated by multiplying direct output values times total output multipliers that are specific to the listed resource sector. These multipliers were acquired from an input/output model developed by the University of Wyoming. Dept. of Agricultural Economics, College of Agriculture, Extension. They are: for oil, gas, and coalbed methane (1.506086); for coal and trona (1.795145); for livestock grazing (2.822582); and for recreation (2.054536). The resulting figures represent the amount of direct, indirect, and induced output resulting from the activities proposed for the given alternative.

⁵ Figures in these rows show the income paid directly to households by the listed resource sector. They were calculated by multiplying direct output values by direct income multipliers that are specific to the listed resource sectors. The source of these multipliers are the same as listed in footnote 4. They are: for oil, gas, and coalbed methane (0.082086); for coal and trona (0.178525); and for recreation (0.333658). For livestock grazing, the annual direct personal income is calculated by multiplying the total animal units by \$52.00 each.

⁶ Figures in these rows specify the amount of direct, indirect, and induced income accruing to households as the result of activities proposed under each alternative. They were calculated by multiplying direct output values times total income multipliers for the given sectors. The source of these multipliers is the same as listed in footnote 4. The multipliers are: for oil, gas, and coalbed methane (0.167426); for coal and trona (0.322868); and for recreation (0.516920). For livestock grazing, the total area income is calculated by multiplying direct personal income by 3.32024.

APPENDIX 10-7

COMPARISON OF ALTERNATIVES: CUMULATIVE (1991-2010) SUMMARY OF ALL RESOURCES INCLUDING TIMBER HARVESTING AND LIVESTOCK GRAZING^{1,2}

(Values in \$000's)

SCENARIO	LIVESTOCK GRAZING			TIMBER HARVESTING				TOTAL ALL OTHER RESOURCES	
	180,000	MAXIMUM AUM USE LEVEL/YR		ANNUAL OUTPUT (MBF) AND PRICE/MBF					
		200,000	318,647	413,147	500 MBF/YR		1000 MBF/YR		
					@\$175/MBF	@\$220/MBF	@\$175/MBF		@\$220/MBF
DIRECT OUTPUT VALUE:									
ALTERNATIVE A	211,000	235,000	374,000	1,750	2,200	3,500	4,400	18,933,848	
ALTERNATIVE B	211,000	235,000	374,000	1,750	2,200	3,500	4,400	22,522,998	
ALTERNATIVE C	211,000	235,000	374,000	1,750	2,200			19,090,702	
PROPOSED PLAN	211,000	235,000	374,000	1,750	2,200			19,602,165	
IMPACTS ON TOTAL AREA OUTPUT ³ :									
ALTERNATIVE A	596,000	662,000	1,055,000	4,216	5,300	8,430	10,598	31,584,549	
ALTERNATIVE B	596,000	662,000	1,055,000	4,216	5,300	8,430	10,598	37,290,902	
ALTERNATIVE C	596,000	662,000	1,055,000	4,216	5,300			31,899,251	
PROPOSED PLAN	596,000	662,000	1,055,000	4,216	5,300			32,813,339	
DIRECT INCOME EFFECTS ⁴ :									
ALTERNATIVE A	31,000	35,000	55,000	394	494	788	990	2,585,409	
ALTERNATIVE B	31,000	35,000	55,000	394	494	788	990	2,982,113	
ALTERNATIVE C	31,000	35,000	55,000	394	494			2,627,420	
PROPOSED PLAN	31,000	35,000	55,000	394	494			2,716,762	
IMPACTS ON TOTAL AREA INCOME ⁵ :									
ALTERNATIVE A	104,000	115,000	183,000	920	1,158	1,840	2,314	4,826,056	
ALTERNATIVE B	104,000	115,000	183,000	920	1,158	1,840	2,314	5,590,100	
ALTERNATIVE C	104,000	115,000	183,000	920	1,158			4,896,864	
PROPOSED PLAN	104,000	115,000	183,000	920	1,158			5,059,328	

¹ Figures in this table are expressed in \$1000 and rounded to the nearest whole number. Blank space in row/column intersection means scenario doesn't apply.

² Impacts listed in this table are cumulative changes over the next 20 years.

³ Figures in these rows were calculated by multiplying direct output values times total output multipliers that are specific to the listed resource sector. These multipliers were acquired from an input/output model developed by the University of Wyoming, Dept. of Agricultural Economics, College of Agriculture, Extension. The resulting figures represent the amount of direct, indirect, and induced output resulting from the activities proposed for the given alternative.

⁴ Figures in these rows show the income paid directly to households by the listed resource sector. They were calculated by multiplying direct output values by direct income multipliers that are specific to the listed resource sectors. The source of these multipliers are the same as listed in footnote 3.

⁵ Figures in these rows specify the amount of direct, indirect, and induced income accruing to households as the result of activities proposed under each alternative. They were calculated by multiplying direct output values times total income multipliers for the given sectors. The source of these multipliers is the same as listed in footnote 3.

APPENDIX 10-8

OIL AND GAS SOCIOECONOMIC IMPACTS: ALTERNATIVE A¹

YEAR (BASE YEAR)	OIL				GAS				OIL AND GAS IMPACTS			
	OUTPUT (BBLs)	DIRECT OUTPUT VALUE (\$)	IMPACTS ON TOTAL AREA OUTPUT (\$) ⁴	DIRECT INCOME EFFECTS (\$) ⁵	IMPACTS ON TOTAL AREA INCOME (\$) ⁶	OUTPUT (MCF)	DIRECT OUTPUT VALUE (\$) ⁷	IMPACTS ON TOTAL AREA OUTPUT (\$) ⁸	DIRECT INCOME EFFECTS (\$) ⁹	IMPACTS ON TOTAL AREA INCOME (\$) ¹⁰	DIRECT EMPLOY- MENT 11,12,13	IMPACTS ON TOTAL AREA EMPLOY- MENT ¹⁴
1990	6,489,450	149,516,928 ²	225,185,352	12,273,247	25,033,021	183,546,900	293,675,040	442,299,866	24,106,609	49,168,837	484	1,676
1991	6,641,811	132,836,220 ³	200,062,771	10,903,994	22,240,237	187,856,262	300,570,019	452,684,298	24,672,591	50,323,236	489	1,694
1992	6,765,957	135,319,140	203,802,262	11,107,807	22,655,942	191,367,594	306,188,150	461,145,687	25,133,761	51,263,857	494	1,711
1993	6,782,886	135,657,720	204,312,193	11,135,600	22,712,629	191,846,412	306,954,259	462,299,512	25,196,647	51,392,124	494	1,711
1994	6,907,032	138,140,640	208,051,684	11,339,413	23,128,335	195,357,744	312,572,390	470,760,901	25,657,817	52,332,745	499	1,728
1995	6,867,531	137,350,620	206,861,846	11,274,563	22,996,065	194,240,502	310,784,803	468,068,641	25,511,081	52,033,456	497	1,721
1996	6,940,890	138,817,800	209,071,545	11,394,998	23,241,709	193,615,380	309,784,608	466,562,261	25,428,979	51,865,998	500	1,732
1997	6,961,888	139,237,760	209,704,041	11,429,471	23,312,021	194,080,896	310,529,434	467,684,033	25,490,119	51,990,701	497	1,721
1998	6,737,742	134,754,840	202,952,378	11,061,486	22,561,464	190,569,564	304,911,302	459,222,644	25,028,949	51,050,080	493	1,707
1999	6,636,168	132,723,360	199,892,794	10,894,730	22,221,341	187,696,656	300,314,650	452,299,689	24,651,628	50,280,481	489	1,694
2000	6,416,091	128,321,820	193,263,697	10,533,425	21,484,409	181,472,022	290,355,235	437,299,955	23,834,100	48,613,016	481	1,666
2001	6,382,233	127,644,660	192,243,835	10,477,840	21,371,035	180,514,386	288,823,018	434,992,303	23,708,326	48,356,483	480	1,662
2002	6,258,087	125,161,740	188,504,344	10,274,027	20,955,329	177,003,054	283,204,886	426,530,915	23,247,156	47,415,861	476	1,649
2003	6,043,653	120,873,060	182,045,223	9,921,986	20,237,293	170,938,026	273,500,842	411,915,789	22,450,590	45,791,152	443	1,534
2004	6,045,939	120,918,780	182,114,082	9,925,739	20,244,948	171,257,238	274,011,581	412,685,006	22,492,515	45,876,663	443	1,534
2005	6,145,227	122,904,540	185,104,807	10,088,742	20,577,416	173,810,934	278,097,494	418,838,743	22,827,911	46,560,751	443	1,534
2006	6,269,373	125,387,460	188,844,298	10,292,555	20,993,121	177,322,266	283,715,626	427,300,132	23,289,081	47,501,372	451	1,562
2007	6,252,444	125,048,880	188,334,367	10,264,762	20,936,434	176,843,448	282,949,517	426,146,306	23,226,194	47,373,106	450	1,559
2008	6,218,568	124,371,720	187,314,506	10,209,177	20,823,060	175,886,812	281,418,899	423,841,064	23,100,552	47,116,841	449	1,555
2009	6,212,943	124,258,860	187,144,529	10,199,913	20,804,164	175,726,206	281,161,930	423,454,046	23,079,458	47,073,817	449	1,555
2010	5,609,142	112,182,840	168,957,005	9,208,641	18,782,324	158,648,364	253,837,382	382,300,928	20,836,495	42,498,978	428	1,482
TOTAL (1991- 2010)	129,095,623	2,581,912,460	3,888,582,209	211,938,866	432,279,276	3,646,053,766	5,833,686,026	8,786,032,852	478,863,951	976,710,717		

¹ Does not include coalbed methane.

² Calculated by multiplying 1990 output level times a BBL price of \$23.04 which is the average price reported for sweet crude in the Green River Resource Area in 1990. The average price per barrel in this Area is usually about \$2 higher than the average reported annually for the State of Wyoming.

³ From 1991 through 2010 the average estimated price for sweet crude in this table is \$20.00. Therefore, values/year are calculated by multiplying \$20 times the annual oil output volume listed in the previous column.

⁴ The figures in this column represent the impacts on the area's total economic output from the level of oil output proposed in Alternative A. Figures are calculated by multiplying the annual direct oil output values times a total oil/gas output multiplier of 1.506086. This multiplier is an average for the oil/gas sector for the State of Wyoming and was acquired from an input/output model developed by the University of Wyoming, Dept. of Agricultural Economics, College of Agriculture, Extension.

OIL AND GAS SOCIOECONOMIC IMPACTS: ALTERNATIVE A¹ (Continued)

⁵ Direct income is the income realized by households directly from the oil sector. It is calculated by multiplying direct oil output value/year times an oil/gas sector direct income multiplier of 0.082086. The source of the multiplier is the same as in footnote 4.

⁶ The effects on total area income from the level of oil activities proposed under this alternative are calculated by multiplying the direct annual output values times an average state total oil/gas income multiplier of 0.167426. The source of the multiplier is the same as in footnote 4.

⁷ Calculated by multiplying output level times an MCF price of \$1.00 which is the average price assumed for gas in this analysis.

⁸ The figures in this column represent the impacts on the area's total economic output from the level of gas output proposed in Alternative A. Figures are calculated by multiplying the annual direct gas output values times a total oil/gas output multiplier of 1.506086. This multiplier is an average for the oil/gas sector for the State of Wyoming. The source is the same as in footnote 4.

⁹ Direct income is the income realized by households directly from the gas sector. It is calculated by multiplying direct gas output value/year times an oil/gas sector direct income multiplier of 0.082086. The source of the multiplier is the same as in footnote 4.

¹⁰ The effects on total area income from the level of gas activities proposed under this alternative are calculated by multiplying the direct annual output values times an average state total oil/gas income multiplier of 0.167426. The source of the multiplier is the same as in footnote 4.

¹¹ The same workers would be drilling, completing, and maintaining both oil and/or gas wells in the Resource Area.

¹² Figures in this column are estimates based upon oil/gas drilling, completion, and production employment information acquired for the Big Piny/LaBarge CAP. It relates the number of projected wells completed and operating each year to the number of workers required.

¹³ This RMP assumes that exceptions and mitigation measures are possible throughout crucial area restriction periods as long as the well being of wildlife is not adversely impacted. It also assumes that in most cases drilling and completion of new wells would only be hampered by the severe weather of January and February. Therefore, annual drilling time each year would be about 305 days. It is also assumed that one drilling rig can drill about 15 wells and one completion rig complete about 10 wells per 305 day season. This estimates that it takes 20 days to drill and 30 days to complete a well in the Resource Area. It further assumes that, on average, there are 20 workers on a drilling rig and 5 on a completion rig. One maintenance worker is estimated to be able to oversee 5 producing wells. For example, in the base year 70 wells were reported drilled and about 1,744 wells were already producing. This is estimated to result in about 5 drilling rigs with 20 workers each, 7 completion rigs with 5 workers each, and 350 total maintenance workers for all producing wells.

¹⁴ Impacts of oil/gas activity under Alternative A on total area employment levels is estimated by multiplying the direct annual employment figures in the previous column times a multiplier of 3.4633764. Source of multiplier is the same as in footnote 4.

APPENDIX 10-9

SWEETWATER COUNTY EMPLOYMENT TRENDS BY INDUSTRY

Sweetwater County Employment Trends by Industry

Emp.	Mining	Const.	Mfg.	T.C.P.U.	Wholesale	Retail	F.I.R.E.	Serv.	Pub.	Ag.	Avg. Tot.
1980	7,142	2,984	438	1,463	747	3,259	398	3,948	687	ND	21,096
1981	7,595	4,693	483	1,693	928	3,527	419	4,164	728	ND	23,203
1982	7,348	2,611	447	1,703	858	3,565	448	4,464	770	ND	22,215
1983	5,992	1,358	395	1,571	667	3,151	444	4,204	784	ND	18,574
1984	5,468	1,420	354	1,669	638	3,050	432	4,283	747	ND	18,056
1985	4,985	2,069	450	1,883	636	3,146	448	4,386	786	ND	18,793
1986	4,553	1,981	477	1,747	712	3,140	467	4,494	848	ND	18,414
1987	4,351	1,182	429	1,582	690	2,783	430	4,458	846	ND	16,764
1988	4,404	1,089	470	1,546	691	2,915	419	4,330	869	0	16,766
1989	4,598	1,003	492	1,580	665	2,872	391	2,132	3,581	29	17,342
1990											
1991											
1992											

*Note: Dramatic changes in 1989 figures for Services and Public Administration reflect a shift in the reporting of the data for these two categories.

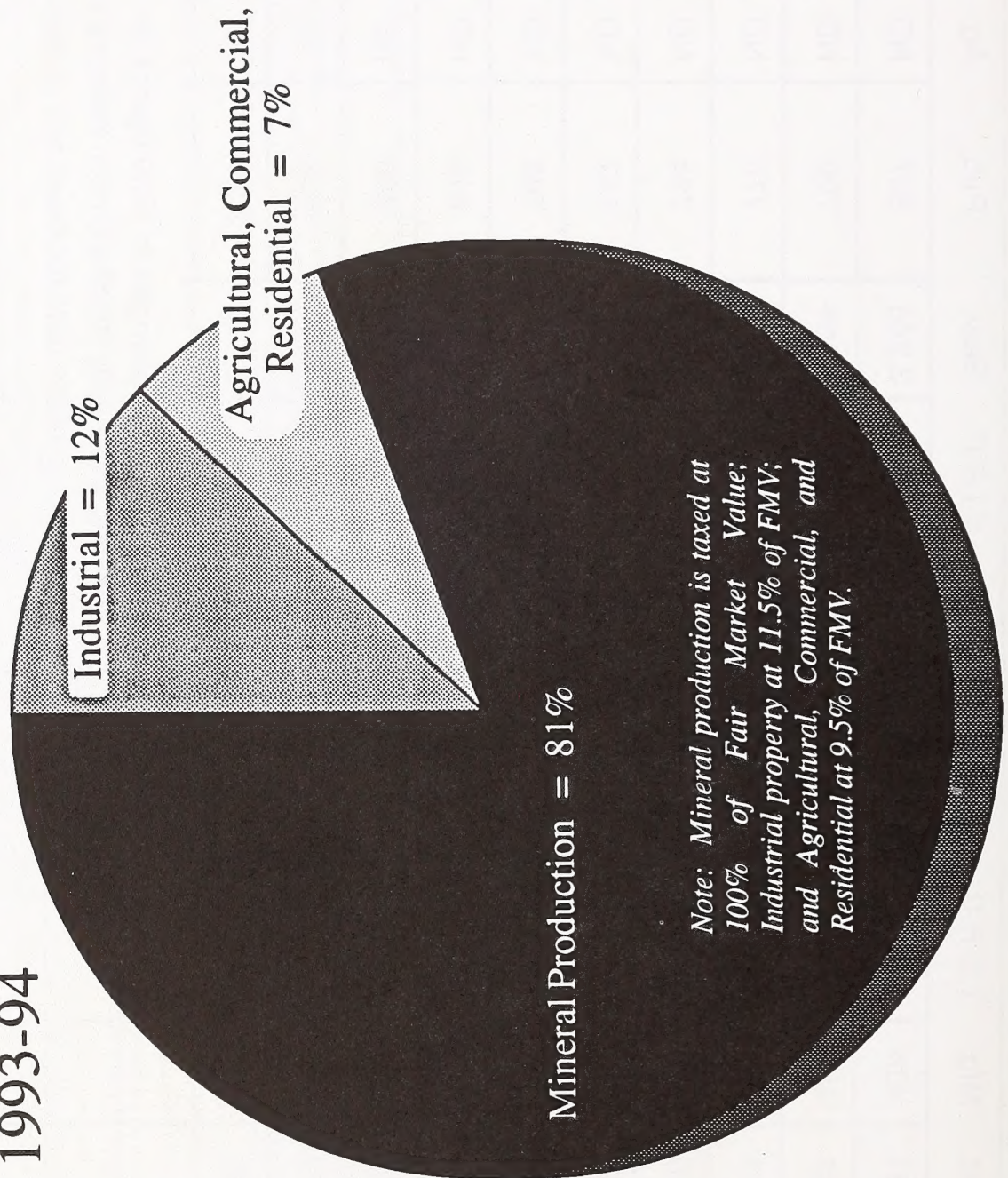
Data: Wyoming Employment Security Commission - Latest Authorized Statistics as of 06/09/93

Plot: Sweetwater Co. Staff Resources & Tech. Serv., 06/93

APPENDIX 10-10

SWEETWATER COUNTY DISTRIBUTION OF TAXABLE VALUATIONS , 1993-94 (CHART)

Sweetwater County Distribution of Taxable Valuation 1993-94

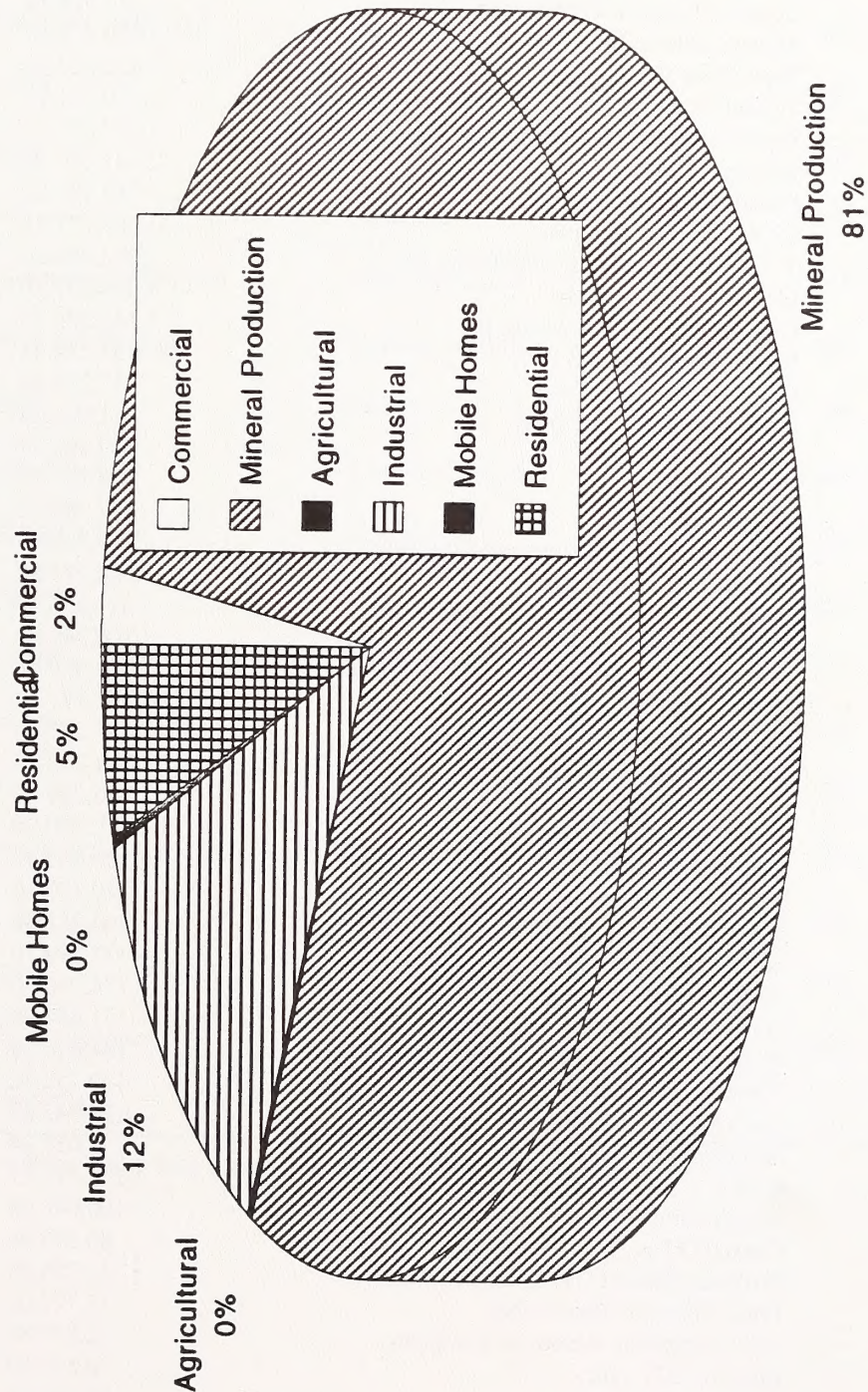


Data: Sweetwater County Assessor's Office, 03/30/94
Plot: Sweetwater Co. Staff Resources & Tech. Services, 06/94

APPENDIX 10-11

SWEETWATER COUNTY VALUATION MAKEUP, 1993 (CHART)

SWEETWATER COUNTY VALUATION MAKEUP - 1993



APPENDIX 10-12

SWEETWATER COUNTY TOP 50 TAXPAYERS

(FY 1994-95)

RANK	COMPANY	TAXES PAID (\$)	% OF TOTAL
1.	Pacific Power & Light Company/Bridger Coal	11,259,417.64	14.09
2.	Union Pacific	8,185,277.08	10.24
3.	AMOCO	6,437,558.08	8.06
4.	FMC Wyoming Corporation	5,660,436.76	7.08
5.	Solvay Minerals	3,731,077.16	4.67
6.	General Chemical Corporation	3,714,528.12	4.65
7.	Rhône-Poulenc, Inc.	3,620,923.48	4.53
8.	Black Butte Coal	3,425,029.16	4.29
9.	Tg Soda Ash, Inc.	2,779,334.78	3.48
10.	Washington Energy Exploration	2,247,485.32	2.81
11.	Wexpro Company	2,241,094.94	2.80
12.	Presidio Exploration, Inc.	1,743,199.02	2.18
13.	Celsius Energy Company	1,669,277.28	2.09
14.	Texaco Exploration & Production, Inc.	1,593,984.52	1.99
15.	Idaho Power Company	1,254,067.80	1.57
16.	General Atlantic Resources, Inc.	1,142,596.38	1.43
17.	Exxon Company, U.S.A.	753,282.58	0.94
18.	Colorado Interstate Gas	612,273.84	0.77
19.	Questar Pipeline Company	561,505.34	0.70
20.	Hunt Oil Company	549,206.54	0.69
21.	Bannon Energy	498,363.96	0.62
22.	Church & Dwight	464,780.22	0.58
23.	Fuel Resources Development Company	429,709.16	0.54
24.	Marathon Oil Company	348,273.80	0.44
25.	Barrett Resources Corporation	311,233.48	0.39
26.	SF Phosphates Ltd., Co.	302,866.62	0.38
27.	PG&E Resources Company	263,092.50	0.33
28.	Western Gas Resources	256,731.78	0.32
29.	Samson Resources Company	247,287.20	0.31
30.	Luff Exploration Company	241,338.26	0.30
31.	Union Oil of California	236,249.44	0.30
32.	Enron Oil and Gas Company	226,770.06	0.28
33.	Arch of Wyoming, Inc.	220,663.40	0.28
34.	US West Communications	220,190.10	0.28
35.	TOC-Rocky Mountain, Inc.	204,981.06	0.26
36.	Lion Coal Company	197,299.10	0.25
37.	ANR Production Company	174,080.10	0.22
38.	Wyoming Interstate Company	151,484.88	0.19
39.	Overland Transmission	134,614.36	0.17
40.	Prenalta Corporation	130,752.52	0.16
41.	Santa Fe Energy Resources, Inc.	129,942.62	0.16
42.	Mountain Fuel Supply Company	113,057.34	0.14
43.	AT&T	105,396.22	0.13
44.	Mid-America Pipeline Company	100,042.96	0.13
45.	Coastal Oil and Gas Corporation	80,595.06	0.10
46.	Williams Natural Gas Company	76,288.98	0.10
47.	Price Financing Partnership	73,720.08	0.09
48.	North American Resources Company	72,827.84	0.09
49.	Chevron USA, Inc.	70,520.00	0.09
50.	Resource Strategies	67,228.18	0.08
Total Taxes Paid to Sweetwater County		\$79,906,916.48	100.00
Total Tax Paid by Top 50 Taxpayers		\$69,331,937.04	86.77

Source: Sweetwater County Assessor's Office - September, 1994

APPENDIX 10-13

SWEETWATER COUNTY MAJOR EMPLOYERS

NAME OF COMPANY	PRODUCT	# EMPLOYEES
FMC Corporation	Soda Ash and Other Chemicals	1,300
School District #1	Education	800
General Chemical Soda Ash Partners	Soda Ash	670
Rhône-Poulenc	Soda Ash	542
Jim Bridger Power Plant (PP&L)	Electricity	500
School District #2	Education	455
Black Butte Coal	Coal Production	428
Solvay Minerals	Soda Ash	407
Bridger Coal Company (NERCO)	Coal Production	395
Sweetwater Memorial Hospital	Medical Facilities	372
Tg Soda Ash Inc.	Soda Ash	306
Union Pacific Railroad	Railroad Service	300
Western Wyoming College	Education	285
City of Rock Springs	Government/City	260
Sweetwater County	Government/County	232
Church and Dwight	Baking Soda and Related	204
Little America	Travel Plaza	190
Exxon Company, U.S.A.	Carbon Dioxide and Natural	178
SF Industries	Phosphate Fertilizer	165
City of Green River	Government/City	125
Bureau of Land Management	Land Use/Management	105
Colorado Interstate Gas	Natural Gas Transportation	61

Source: Sweetwater County Staff Resources and Technical Services, 4/92

APPENDIX 10-14

TOURIST EXPENDITURES BY COUNTY

(in millions of dollars)

COUNTY	RETAIL	FOOD	LODGING	RECREATION	TRANSPORTATION	LIQUOR	TOTAL
Albany	\$15.41	\$14.74	\$10.87	\$10.32	\$7.92	\$2.15	\$61.40
Big Horn	4.26	4.07	3.00	2.85	2.19	0.59	16.97
Campbell	11.83	11.32	8.35	7.92	6.08	1.65	47.15
Carbon	16.53	15.80	11.65	11.06	8.49	2.30	65.84
Converse	4.73	4.52	3.34	3.17	2.43	0.66	18.85
Crook	3.64	3.48	2.57	2.44	1.87	0.51	14.52
Fremont	12.94	12.37	9.13	8.66	6.65	1.80	51.56
Goshen	3.17	3.03	2.23	2.12	1.63	0.44	12.61
Hot Springs	3.73	3.57	2.63	2.50	1.92	0.52	14.87
Johnson	6.65	6.36	4.69	4.45	3.42	0.93	26.50
Laramie	33.05	31.60	23.31	22.12	16.99	4.61	131.68
Lincoln	8.49	8.12	5.99	5.68	4.36	1.18	33.83
Natrona	23.76	22.72	16.75	15.90	12.21	3.31	94.66
Niobrara	1.63	1.56	1.15	1.09	0.84	0.23	6.49
Park	51.47	49.21	36.30	34.45	26.45	7.18	205.06
Platte	4.71	4.50	3.32	3.15	2.42	0.66	18.76
Sheridan	12.88	12.32	9.08	8.62	6.62	1.80	51.32
Sublette	5.63	5.39	3.97	3.77	2.89	0.79	22.44
Sweetwater	23.06	22.05	16.26	15.44	11.85	3.22	91.88
Teton	110.41	105.58	77.86	73.90	56.75	15.40	439.90
Uinta	12.00	11.47	8.46	8.03	6.17	1.67	47.80
Washakie	3.98	3.81	2.81	2.66	2.05	0.56	15.86
Weston	3.26	3.12	2.30	2.18	1.68	0.45	12.99
TOTAL	\$377.16	\$359.81	\$265.41	\$252.96	\$194.48	\$53.12	\$1,502.94

Note: Tourism expenditure figures in this table prepared by Davidson-Peterson Associates differ substantially from those figures derived using the University of Wyoming Input/Output Model. The numbers in the two models vary because of differences in distinguishing tourism versus business travel in Wyoming. Assuming that the Davidson-Peterson figures are almost double those of the University of Wyoming, the net tourism expenditure in Sweetwater County would be approximately \$46 million for 1993.

Source: Davidson-Peterson Associates, Inc.

APPENDIX 10-15

MINERAL INDUSTRY REVENUES THAT ACCRUE TO STATE AND LOCAL GOVERNMENTS (1991-2010)

(\$000)

COMMODITY	ALTERNATIVE A	ALTERNATIVE B	ALTERNATIVE C	PROPOSED PLAN
DIRECT OUTPUT VALUE				
Oil	2,581,912	3,367,404	2,556,053	2,551,681
Gas	5,833,686	7,619,463	5,783,608	5,794,049
Coal	6,009,725	6,298,325	5,495,425	6,009,725
Trona	4,400,000	5,104,000	5,104,000	5,104,000
TOTAL	18,825,323	22,389,192	18,939,086	19,459,454
SEVERANCE TAX VALUE (\$)				
Oil	142,548	185,915	141,120	140,879
Gas	350,021	457,168	347,016	303,562
Coal	414,671	434,584	379,184	414,671
Trona	29,333	34,027	34,027	34,027
TOTAL	936,573	1,111,694	901,348	893,138
AD VALOREM TAX VALUE (\$)				
Oil	166,306	216,901	164,640	164,359
Gas	356,578	465,732	353,517	354,155
Coal	420,681	440,883	384,680	420,681
Trona	51,333	59,547	59,847	59,547
TOTAL	994,898	1,183,062	962,384	998,741
WYOMING ROYALTY SHARE VALUE (\$)				
Oil	100,049	130,487	99,047	98,878
Gas	226,055	295,254	224,115	224,519
Coal	223,562	234,298	204,430	223,562
Trona	52,800	61,248	61,248	61,248
TOTAL	602,466	721,287	588,840	608,207
TOTAL TAX & ROYALTY VALUE (\$)				
Oil	408,903	533,303	404,808	404,115
Gas	932,655	1,218,154	924,648	882,237
Coal	1,058,914	1,109,765	968,294	1,058,914
Trona	133,467	154,821	154,821	154,821
TOTAL	2,533,938	3,016,043	2,452,571	2,500,087

ASSUMPTIONS:

This evaluation does not include bonus or rentals.

Commodity (output unit)	Attributes Price (\$/unit)	Severance Tax Rate ¹ (%)	Ad Valorem Tax Rate ¹ (%)	Federal Royalty Rate ² (%)	Federal Mineral Share (%)
Oil (bbls)	20	6	7	12.5	62
Gas (mcf)	1.6	6	7	12.5	62
Coal (ton)	18.5	6.9	7	12.4	60
Trona (ton) ³	80	4	7	5	40

¹ Adjusted for federal, state, indian, and other royalty reductions provided by Wyoming Department of Revenue.

² State and local governments receive 50% of revenues.

³ Soda ash values placed on trona basis for severance and ad valorem tax bases.

APPENDIX 11-1

PRODUCTION PARAMETERS FOR VEGETATION COMMUNITIES (pounds/acre)

Landsat Vegetation Type	Community	Precipitation Zone		
		7-9"	10-14"	15-19"
High Density Sagebrush	Sagebrush GT 35%	—	700-1,500	900-2,400
	Open Aspen	—	—	1,400-2,400
	Meadow	—	1,200-6,000	1,200-7,500
	Mountain Shrub	—	900-1,400	500-2,400
Low Density Sagebrush	Sagebrush LT 35%	200-700	500-1,200	
	Desert Shrub	300-700	500-1,200	—
	Grass	—	600-1,400	—
Saltbush	Saltbush	150-600	150-750	—
Greasewood	Greasewood	300-900	1,200-2,500	—
Riparian	Meadow	1,400-5,000	1,200-6,000	1,500-7,500
	Broadleaf	1,400-2,700	700-6,000	1,400-7,500
	Greasewood	—	1,200-2,500	—
	Sagebrush	200-700	700-1,500	900-2,400
Aspen	Broadleaf	1,400-2,700	700-6,000	1,400-7,500
	Sagebrush	—	800-1,500	1,200-2,400
Conifer	Conifer	—	700-1,500	1,400-2,400
Barren	Barren	—	—	—
Juniper	Juniper	200-1,100	200-1,400	450-750
Sand Dune	Sand Dune	200-700	700-1,500	

APPENDIX 11-2

AVERAGE STOCKING RATES

(Acres/AUM by Precipitation Zone)

Landsat Classification	7-9 Inch	10-14 Inch	15-19 Inch
High Density Sagebrush	7.0	4.0	3.5
Low Density Sagebrush	15.0	8.5	5.0
Saltbush	8.0	6.5	—
Greasewood	6.5	4.5	—
Aspen	6.0	4.0	2.5
Riparian	1.5	1.0	0.7
Conifer	12.0	12.0	12.0
Juniper	18.0	14.0	12.0
Barren	—	—	—
Sand Dune	—	—	—
Agriculture	—	—	—
Water	—	—	—

APPENDIX 11-3

SUMMARY OF FIRE EFFECTS ON MAJOR GRASS AND GRASSLIKE SPECIES

Species	Response to Fire	Recovery Time (Years)	Remarks
Bluegrass			The bluegrasses are generally small plants and fire damage is minimal with late summer and fall burns.
Big	Slight damage	1-3	
Cusick	Slight damage	1-3	
Nevada	Slight damage	1-3	
Sandberg	Undamaged	1-3	
Cheatgrass	Undamaged	1	Any reduction in cheatgrass stands is usually short-lived.
Idaho Fescue	Slight to severe damage	2-30	Spring or fall burning with adequate soil moisture appears to damage plants only slightly, but this species can be seriously harmed by hot summer or fall fires, particularly where precipitation is marginal for the existence of this species.
Indian ricegrass	Slight damage	2-4	Good resistance to burning but slow to increase in density.
Junegrass	Undamaged	1-3	Probably increase in density for several years after burning.
Needlegrass			Needlegrasses are generally the least fire-resistant bunchgrasses. Large plants are damaged more than small plants. A 50 percent reduction in basal area should be anticipated among the various size plants in a given area.
Columbia	Moderate damage	3-5	
Needle-and-thread	Severe damage	4-8	
Thurber	Severe damage	4-8	
Western	Moderate damage	3-5	
Plains reedgrass	Undamaged	1-2	Rhizomatous species that is fire resistant.
Sedges			
Douglas	Undamaged	1-3	
Threadleaf	Severe damage	4-10	
Bottlebrush squirreltail	Slight damage	1-3	One of the most fire-resistant bunchgrasses, although burning in a dry year can reduce basal area. Bottlebrush squirreltail can increase several years after burning.
Wheatgrass			Bluebunch wheatgrass can be damaged if burned in a dry year. Other wheatgrasses are difficult to burn in seeded monocultures.
Bluebunch	Slight damage	1-3	
Crested	Undamaged	1-2	
Intermediate	Undamaged	1-2	
Pubescent	Undamaged	1-2	
Riparian	Undamaged	1-2	
Tall	Undamaged	1-2	
Thickspike	Undamaged	1-2	
Western	Undamaged	1-2	

SOURCE: Wright, Henry A., Neuenschwander, Leon F., and Britton, Carlton M. "The Role and Use of Fire in Sagebrush-Grass and Pinyon-Juniper Plant Communities, a State-of-the-Art Review," USDA Forest Service General Technical Report INT-58. Intermountain Forest and Range Experiment Station, Ogden, Utah, September 1979.

APPENDIX 11-4

RESPONSE OF COLD DESERT FORBS TO FALL BURNING

Severely Damaged	Slightly Damaged	Undamaged
Hairy fleabane	Astragalus	Arrowleaf balsamroot
Hoary phlox	Matroot	Common comandra
Littleleaf pussytoes	Munro globemallow	Common sunflower
Low pussytoes	Northwestern paintbrush	Coyote tobacco
Mat eriogonum	Pinnate tansymustard	Douglas knotweed
Uinta sandwort	Plumeweed	Flaxleaf plainsmustard
Wyeth eriogonum	Red globemallow	Flixweed tansymustard
	Sticky geranium	Foothill deathcamas
	Tailcup lupine	Gayophytum
	Tapertip hawksbeard	Goldenrod
	Tongueleaf violet	Goosefoot
	Tumblemustard	Lambstongue groundsel
	Wavyleaf thistle	Longleaf phlox
	Whitlow-wart	Orange arnica
	Wild lettuce	Pale alyssum
		Purpledaisy fleabane
		Russian thistle
		Velvet lupine
		Western yarrow
		Wild onion

SOURCE: Wright, Henry A., Neuenschwander, Leon F., and Britton, Carlton M. "The Role and Use of Fire in Sagebrush-Grass and Pinyon-Juniper Plant Communities, a State-of-the-Art Review." USDA Forest Service General Technical Report INT-58. Intermountain Forest and Range Experiment Station. Ogden, Utah, September 1979.

SUMMARY OF FIRE EFFECT ON MAJOR SHRUB SPECIES IN THE DRIER FOREST AND SAGEBRUSH GRASS ZONES OF THE INTERMOUNTAIN REGION

APPENDIX 11-5

Species	Sprouting Ability	Response to Fire	Recovery Time (Years)	Remarks
Antelope bitterbrush	Weak sprouter	Severely damaged by summer & fall burns	30-40	Effect determined by growth form; decumbent form sprouts vigorously, columnar form is a weak sprouter. If plants sprout, they will recover in 9 to 10 years. Spring burns enhance sprouting but fall burns are best for reproduction from seed. Burn when soil is wet.
Desert bitterbrush	Sprouter	Unharmed		
Cliffrose	Weak to nonsprouter	Usually killed by fire		
Big sagebrush	Nonsprouter	Severely harmed	30	Good seed crop before burning hastens recovery. Effective control requires burning before seed-set and periodic burns. May use black and low sage as fuel breaks. Subspecies of big-sagebrush appear to be important relative to response to burning.
Black sagebrush	Nonsprouter	Rarely burned		
Low sagebrush	Nonsprouter	Rarely burned		
Silver sagebrush	Sprouter	Slightly harmed		
Three-tip sagebrush	Weak sprouter	Harmed	30	
Rubber rabbitbrush	Vigorous sprouter	Enhanced	20-25	May be killed if burned after heavy grazing or burned in early summer.
Green rabbitbrush	Vigorous sprouter	Enhanced	20-25	
Broom snakeweed	Weak sprouter	Severely harmed	20-25	Rapid recovery.
Horsebrush	Vigorous sprouter	Enhanced	30-35	Toxic, increases fivefold within 12 years.
Gambel oak	Vigorous sprouter	Enhanced	30-40	
Common snowberry	Vigorous sprouter	Unharmed	10	Enhanced by cool fires but harmed by hot fires.
Mountain snowberry	Sprouter	Slightly harmed	15	
Mountain-mahogany	Sprouter	Slightly harmed	Recovery times not available in literature.	More information is needed.
Western mahogany	Sprouter	Slightly harmed		
Curtleaf mahogany	Sprouter	Moderately harmed		
Serviceberry	Sprouter	Slightly harmed	30-50	Highly adapted to fire; soil being moist at the time of the burn is important. Usually poor reproduction from seed.
Ocean-spray	Sprouter	Enhanced	20-30	
Ninebark	Sprouter	Enhanced	20-30	
Bittercherry	Sprouter	Unharmed	30-40	
Rose	Sprouter	Enhanced	15-30	
Spiraea	Sprouter	Unharmed	20-30	
Ceanothus				
Nonsprouting group	Nonsprouters	Harmed by spring	Recovery times not available in literature.	Seedlings are enhanced with fall burns.
Sprouting group	Vigorous sprouters	Unharmed to enhanced		

SOURCE: Wright, Henry A., Neuenschwander, Leon F., and Britton, Carlton M. "The Role and Use of Fire in Sagebrush-Grass and Pinyon-Juniper Plant Communities, a State-of-the-Art Review," USDA Forest Service General Technical Report INT-58. Intermountain Forest and Range Experiment Station, Ogden, Utah, September 1979.

APPENDIX 11-6

POISONOUS PLANT LIST

Name	Habitat	Dangerous Season	Livestock At Risk	Poisoning Condition and General Information
Tansy mustard	Sandy alkaline soils	Summer	Cattle	Large amounts over long periods of time.
Arrowgrass	Wet and alkaline bottomlands	All	All (including horses)	Hydrocyanic acid. Dangerous when frozen or in drought.
Chokecherry	Moist deep soils mostly in foothills	All	All, especially sheep	Large quantities. Dangerous when frozen or wilted. Hydrocyanic acid.
Cocklebur	Irrigated fields and wet places	Spring	All, especially cattle and pigs	0.75% of body weight, not cumulative. First leaves/cotyledons, old plants safe.
Deathcamus	Foothills	Early spring	All, especially sheep	Dry by early summer, white flower, odorless bulb, 0.5% of weight.
Greasewood	Alkaline bottomlands and washes	Spring	All, but mostly sheep	Oxalic acid. Large quantity on spring trails eaten alone.
Halogeton	Disturbed sites/roads	Fall, winter	All, but mostly sheep	Oxalic acid. Very unpalatable annual. Misused ranges.
Horsebrush	Mostly dry, semi-deserts	Spring	All, but mostly sheep	Spring trail, bighead, photosensitivity. Early yellow flower.
Larkspur	Foothills/deserts	Early spring	Cattle	Most toxic during early growth. All parts poisonous.
Locoweed and Milkvetch	Desert/Mountains	All, especially spring	All	Cumulative, habit-forming, some acute poisons, crazed actions.
Lupine	Mountain foothills/ Areas of deep soil	Most when in fruit	Sheep	Pods and seeds of most species dangerous, palmately compound.

APPENDIX 11-7

NOXIOUS WEEDS

Latin Name	Common Name
<i>Cirsium arvense</i>	Canada thistle
<i>Convolvulus arvensis</i>	Field bindweed
<i>Cardaria draba</i>	Hoary cress
<i>Euphorbia esula</i>	Leafy spurge
<i>Chrysanthemum leucanthemum</i>	Ox-eyed daisy
<i>Sonchus arvensis</i>	Sowthistle
<i>Agropyron repens</i>	Quackgrass
<i>Centaurea repens</i>	Russian knapweed
<i>Linaria vulgaris hill</i>	Yellow toadflax
<i>Linaria dalmatica</i>	Dalmatian toadflax
<i>Onopordum acanthium</i>	Scotch thistle
<i>Carduus nutans</i>	Musk thistle
<i>Arctium minus</i>	Common burdock
<i>Carduus acanthoides</i>	Plumeless thistle
<i>Lepidium latifolium</i>	Giant whitetop

APPENDIX 12-1

ASSUMPTIONS FOR ANALYSIS

GENERAL ASSUMPTIONS FOR ALL ALTERNATIVES

The following assumptions apply to all analyses presented in this chapter.

The BLM would comply with applicable laws, regulations, and policies in implementation of a resource management plan. The effects discussed in the analysis are those that would result from management decisions, not those that would result from compliance with laws, regulations, and policies. Management actions would be implemented as stated, and funding and personnel would be adequate to carry out the actions. Standard operating procedures would be followed in plan implementation. Some of these procedures are summarized in the appendices to this document.

The assumption and analysis guidelines listed below were utilized to assess impacts to all of the alternatives. Generally, a 20-year period with the base year as 1990 was used in preparing assumptions for each resource.

Air Quality

A simple version of Topographic Air Pollution Analysis System (TAPAS) analysis was performed for the entire planning area. This produces a map based on the effect of terrain in channelling or stagnating wind flow to enhance or reduce pollution dispersion, which shows areas where chronic poor dispersion would make it undesirable to site a new development with the potential to produce significant air pollution emissions. Elevation contours of the area of this analysis are shown in Map 60. For this area, the TAPAS two-dimensional Winds model was used to simulate flow over the area for the most prominent wind speed and direction combinations as presented in the Rock Springs wind rose in Figure 4 (Annual Wind Rose for Rock Springs, Wyoming) which total more than 90 percent of the observations. Examples of the results from using the WINDS model are presented in Map 85 and Map 86 for NW winds at 2 m/s (4.5 mph) and SW winds at 2 m/s (4.5 mph), respectively. These maps show wind vector arrows which indicate the direction of the wind flow and by their length the wind speed for each location simulated by the model. The pollution potential values for each wind speed/direction combination are then weighted by the frequency of the winds for that combination from the wind rose. These weighted pollution potentials are then added to obtain the climatological pollution potential. This climatological pollution potential, thus, represents the long-term tendency of an area to stagnate or disperse pollutants. Pollution potential values less than 100 are generally considered low, those above 300 are considered high, and between these two values is considered moderate.

Cultural and Paleontological

The overall density of archeological sites in the planning area is approximately 3.2 sites per 640 acres. Of that number, about one-third prove to be significant in terms of National Register of Historic Places criteria. This density is based on less than 5 percent of the planning area inventoried at a Class III level intensity. Areas of site density as high as 15 sites per section have been found. Estimates of the number of sites that could be impacted by various actions is calculated by simply multiplying the 3.2 sites per 640 acres by the number of acres where surface disturbance would occur.

The Bureau's preferred method of handling cultural resources in the context of public land development is to avoid adversely affecting cultural sites. However, when avoidance would be detrimental to other resource values, mitigation methods would be considered. Mitigation by data recovery may be an acceptable management practice for sites that are eligible for the National Register of Historic Places under criteria D, because of the scientific data they contain. While data recovery may increase the cost or affect timely completion of a specific action, it may be beneficial to the overall resource base because it adds to the understanding of prehistory or history and enables BLM to better manage the totality of cultural resources in the planning area. Other mitigation measures may be appropriate for properties that are eligible for the NRHP under criteria A, B, and C. However, mitigation of adverse effects to those sites would usually be more difficult than sites eligible under criteria D.

Significant fossils may be expected throughout the Cretaceous and Tertiary units exposed in the Green River Resource Area. Concentrations of such fossils are most likely to occur in the Laney and Wilkins Peak Members of the Green River Formation, the Bridger Formation, and the Lance Formation.

Fire

It is assumed that lightning patterns would remain the same and that there exists a relationship between lightning fires and current vegetation patterns associated with known lightning belts. Further, it would be assumed that there exists a relationship between person-caused fires and density of use and that the current annual average of 100 acres (33 occurrences, all ignition sources) burned due to wildfire would continue.

Lands and Realty

Based on the experience of the past 10 years, approximately 2,000 acres of land would be disposed of by sale/exchange and 1,000 acres would be transferred through the R&PP process. However, an exchange of lands with the State of Wyoming to block up scattered sections is under review. If this should occur, the exchange would be for equal value. The majority of all transfers would occur within the checkerboard and around populated areas or industrial sites. Acquisition of lands with important resource values would be pursued, including State lands within WSA, ACECs, and special management areas.

Based upon past history, 41,000 acres are under right-of-way authorization yearly. The number of rights-of-way, permits, and leases issued over a 20-year period averages 877. These figures would not include Applications for Permit to Drill (roads or pipelines) or coal actions authorized under a coal lease.

The majority of pipelines, road rights-of-way, and permits are located in association with oil and gas production areas. The remaining authorizations are associated with populated areas or industrial sites within the checkerboard land pattern.

Right-of-way corridor areas have not been designated, but 1/2 mile wide windows have been identified in areas suitable for right-of-way construction. Access across private lands would be affected by timing and routing but would not be precluded.

Revocation of any withdrawals would open those lands to disposal and mineral location, unless those lands are otherwise withdrawn (e.g., a withdrawal to protect resources in an ACEC which is

also located within the oil shale withdrawal). Any final revocation of the land and mineral withdrawals is projected to the year 2000. See Table 2-6 for approximate acreages of affected lands. The 21,368 acres of public water reserves would be canceled.

Livestock Grazing

The acres and miles of disturbance for improvements are estimates based on each improvement's estimated location and approximate distance. The Rangeland Program Summary Update (September 1990) proposed management actions for each allotment. Additional rangeland improvements were determined to be necessary to reach the overall goals and objectives in each allotment management plan. A summary of these improvements shows 6 water wells, 20 miles of water pipeline, 36 reservoirs, 27 miles of new fence, 2 spring developments, 43 miles of fence reconstruction, and 10 troughs would be required to implement new and existing AMPs.

Construction of fences, pipelines, water wells, troughs, and reservoirs would cause a loss of some soil and vegetation. Vegetation would be reestablished along fences and pipelines (approximately 747 acres) within 3 to 5 years. Sites of water wells, troughs, and reservoirs (approximately 77 acres) would remain disturbed for the long term (10 to 20 years) and would be revegetated upon abandonment.

Prescribed burns and wildfires would cause a loss of vegetation for a period of one to two years and a change in vegetation for 15 to 30 years. Burn areas would be rested from livestock grazing for the first two growing seasons following prescribed burns. Rest from livestock grazing for a period of two years could also be required in wildfire areas but would be determined on a case-by-case basis.

Minerals

Coal Potential

Areas that have high coal interest and development potential are the Beans Spring/Pio (Elk Butte), Deadman Wash, Deer Butte, and the Cooper Ridge areas (Map 87). Table A12-1-1 shows estimated coal reserves for each high development potential area and for each active mine.

In the Deadman Wash area, about 3,500 acres of public lands would be considered for lease (the Deadman Wash tract being considered contains about 8,040 acres of public and private lands). The lands being considered contain about 36 million tons of recoverable coal reserves (14.9 million tons are on public lands and 21.6 million tons are on private lands).

In the Beans Spring area of Elk Butte, about 8,282 acres of public lands would be considered for lease. The Beans Spring area contains about 5,280 acres of state lands in addition to the public lands. The Beans Spring area contains about 34.4 million tons of recoverable coal reserves (28.6 million tons are on public lands and 5.8 million tons are on state lands).

Present Coal Operations

The planning area presently has two companies operating strip surface coal mines and two companies operating underground coal mines (Map 87). Surface disturbance within the Bridger Coal mine area averages 200 acres per year with 100 acres being returned to predisturbance condition (Table A12-1-2). Bridger would have approximately 5,000 acres to reclaim at the end of mine life and is expected to have this acreage reclaimed within 3 years. Total surface disturbance is expected to be about 10,000 acres for life of mine

operation. Existing mines would continue to operate, and areas of potential would be defined as lease tracts.

Surface disturbance within the Black Butte/Pit 22 mine area averages 300 acres per year with 200 acres being returned to predisturbance condition (Table A12-1-3). Black Butte (Pit 22) would have approximately 5,000 acres to reclaim at the end of mine life and is expected to have this acreage reclaimed and a stand of vegetation established within 3 years. Total surface disturbance is expected to be 6,000 acres.

The Lion Coal mine has very little surface disturbance, less than 1 acre per year, and facilities and roads consist of approximately 5 acres (Table A12-1-4). The 7 acres of total disturbance would be reclaimed by 2001.

The Pilot Butte mine (formerly the Stansbury Mine) has very little surface disturbance (less than 5 acres in the last 10 years) with the main disturbance attributed to the mine's early years of operation (Table A12-1-5). Facilities, roads, and railway have disturbed 197 acres since operations began, with the railway and roads being 177 acres of this total disturbance. Total surface disturbance would be about 200 acres that would be reclaimed and a stand of vegetation established within 3 years after mining stops.

Potential New Coal Operations

Coals from the planning area have received various degrees of interest over the years due to their low sulfur content and moderate BTU values. Recently, renewed interest in the Deadman Wash tract (previously the Leucite Hills tract in the Green River/Hams Fork Draft EIS) has caused exploration on public and private lands. Areas of high interest for future coal development include Beans Spring, Cooper Ridge, and Deer Butte (Map 87).

The areas with high interest and development potential could begin strip mining operations within the next 10 to 20 years if these lands are leased and economic conditions warrant. Table A12-1-6, Table A12-1-7, Table A12-1-8, and Table A12-1-9 were prepared to project surface disturbance impacts if any one of these areas is mined.

Exploration drilling has been completed on all active mines, and drilling has recently been completed on the Deadman Wash area with a net disturbance of 25 acres for roads and drill pads. The Elk Butte (Beans Spring and Pio areas) area has had exploration drilling. Total disturbance from this drilling was approximately 160 acres for Beans Spring and 40 acres for Pio. This disturbance has been reclaimed for more than 3 years. Additional drilling would be required in the Pio area with a total disturbance of 10 acres expected for roads and drill pads. Road disturbance is expected to be 16,000 linear feet. These areas would be reclaimed and a stand of vegetation established within three years.

The Beans Spring potential property is assumed to have a life of mine disturbance of about 5,000 acres. This acreage includes all facilities, roads, etc. The mine is expected to be in operation within 10 years from award of lease.

The Deadman Wash life of mine disturbance would be dependant upon the company that is successful in being awarded the competitive lease. If one of the two local companies should be awarded the lease, then the life of mine disturbance would be less than if a new company should be awarded the lease. It is assumed the life of mine disturbance for a new company would be 2,500 acres while one of the two companies presently mining in the area would have a life of mine disturbance of 2,000 acres. The 500-acre difference is the need for facilities for a new company that an existing company would already have in the area. At the end of mine life, there would remain 1,000 to 1,500 acres to reclaim.

The Deadman Wash mine could be active within 2 to 5 years from award of lease to one of the two local companies. If the lease is awarded to a new company, it is assumed it would take 8 to 10 years to put the mine in operation. Annual production is anticipated to be 1 million tons.

Personnel to operate any and all mines would come from local communities. It is assumed that if one of the two local companies were awarded the lease for Deadman Wash, from zero to 100 employees may be needed. If the lease was awarded to a new company, it is assumed that up to 150 employees may be needed. The Beans Spring proposed mine is estimated to need 150 employees. If these two mines are operated as one unit (Elk Butte), approximately 250 employees would be needed. If the Pio properties should be leased and the Beans Spring and Pio properties were mined as one (Elk Butte), then up to 250 employees may be needed. (The Pio portion of Elk Butte is not projected to be developed over the next 20 years. However, for planning and coal reserve purposes, it is included as an integral part of the coal program.)

Sodium Potential

There is some potential for development of a new sodium solution mine that would be located within the south half or on the fringe of the Known Sodium Leasing Area. Table A12-1-10 presents surface disturbance that would be associated with this type of mining. The sodium brine area of potential for recovery of sodium is shown on Map 3. Facilities for this operation would probably be located within the W½, Section 28, T. 24 N., R. 106 W. (USDI 1990 a).

Sodium Production

About 6 million tons of trona is expected to be mined each year from within the planning area boundary (3.2 tons from Rhone-Poulenc; 0.9 tons from Texasgulf; and 0.9 tons from FMC), or 100 million tons over the next 20 years. If a sodium solution mine were to be developed, an additional 100,000 tons per year could be expected to be recovered. There are no production estimates available for sodium brine development.

Oil and Gas Potential

The planning area is considered to have a high potential for the occurrence of oil and gas. This rating considers a variety of geologic characteristics, including:

1. Presence of hydrocarbon source rocks.
2. Presence of reservoir rocks with adequate porosity/permeability.
3. Potential for structural/stratigraphic traps to exist.
4. Opportunity for migration from source to trap.
5. Other conditions, such as temperature, depth of burial, and subsurface pressures.

Industry input was requested to attempt to evaluate the potential for development of the oil and gas resource through the year 2010. With this information, a determination was made of the potential for development, using high, moderate, and low potential values for each part of the planning area (Map 88).

During the stage of Issue Analysis, it was determined that some parts of the planning area would need additional analysis due to projected high rates of drilling activity or due to conflicts with management of other resource values. The three areas identified for additional analysis (Special Study Areas) were Little Colorado Desert, Greater Nitchie Gulch, and Wamsutter Arch (Map 88). Each area lies within the area mapped as having high potential for development of the oil and gas resource.

Oil and Gas Projected Drilling Activity

Statistical analysis of drilling and completion data, obtained from Petroleum Information Corporation and BLM files, was used to make projections of drilling activity in the planning area and the 3 Special Study Areas. Appendix 12-2 has been updated from the Draft EIS to show the statistical analysis used to project drilling activity in the planning area for a 20-year period. Data used were the number of wells drilled each year from 1950 to 1989. From these data, analysis indicated that the most probable future projection of well completions would be 1,258 wells. Analysis also indicated that the maximum future projection of well completions would be 2,385 wells. A review of this analysis shows that the maximum future projection is not likely to occur over the next 20 years. The chances of the most probable number of wells being drilled in any one year is less than 1 percent, and the chance that the maximum projection number of wells could be drilled in one year is even more remote. This is also found to be the case when projections are reviewed for each Special Study Area.

The number of projected wells for the entire planning area includes the numbers of projected wells for each of the 3 Special Study Areas. Those wells projected for the planning area but not within the Special Study areas would be scattered throughout the planning area. It is assumed that 2 percent of these scattered wells would be located in low development potential areas, 4 percent would be located in moderate development potential areas, and 94 percent would be located in high development potential areas.

Appendix 13 of the Draft EIS (Statistical Analysis Used to Project Drilling Activity in the Little Colorado Desert) showed the statistical analysis used to project drilling activity in the Little Colorado Desert Special Study Area. Data used were based on the number of wells drilled in this study area between 1957 and 1990. Analysis of these data indicates that the most probable future projection of well completions would be 255 wells and the maximum future projection of well completions would be 510 wells.

Appendix 13 of the Draft EIS (Statistical Analysis Used to Project Drilling Activity in the Greater Nitchie Gulch) analyzed projected drilling activity in the Greater Nitchie Gulch Special Study Area. For this analysis, wells drilled between 1961 and 1990 were used. Statistical analysis indicates that the most probable future projection of well completions would be 42 wells drilled while the maximum future projection of well completions would be 82 wells drilled.

Appendix 13 of the Draft EIS (Statistical Analysis Used to Project Drilling Activity in the Wamsutter Arch) showed the analysis of projected drilling activity in the Wamsutter Arch Special Study Area. Data used were based on the number of wells drilled in this area between 1953 and 1990. Analysis of these data indicates that the most probable future projection of well completions would be 94 wells drilled while the maximum future projection of well completions would be 253 wells drilled.

Petroleum Information Corporation was also used to obtain success ratios for past wells drilled within and near the planning area (Appendix 13 of the Draft EIS, Success Ratios). In this figure, success ratios were calculated for selected drilling depth ranges and by class. The overall success ratio for all wells drilled is 0.63.

For this analysis, it is assumed that each productive gas well has a life of 20 years and each oil well has a productive life of 50 years. Using this projection and Petroleum Information Corporation's historical well data, projected producing well abandonments for the planning area were developed (Appendix 13 of the Draft EIS, Projected Producing Well Abandonments). This appendix showed the number of abandoned gas and oil producers for each year from 1990 through 2010 and the total number of abandoned producers.

Projected producing well abandonments for each of the 3 Special Study Areas were also determined. Historical well data available in the district for each study area was used instead of Petroleum Information Corporation data.

Oil and Gas Production Rates

A table of projected annual production rates of oil and gas through 2010 was prepared for the planning area (Table A12-1-11). Production rates were projected for both the Most Probable Future Projection and for the Maximum Future Projection of the number of producing wells. The ratio of oil to gas production was assumed to stay constant through 2010 and each producing well was assumed to produce 5,643 barrels of oil and 159,606,000 cubic feet of gas annually. This rate was obtained from total production of oil and gas, divided by number of producing wells during 1989.

Oil and Gas Surface Disturbance

These guidelines for access roads, drill pads, and pipelines and powerlines would be used to determine acres of surface disturbance associated with oil and gas exploration and development drilling activities.

Access Roads:

- 40 feet total disturbance
- 16-foot-wide travelway
- 4.8 acres initial disturbance per linear road mile
- 4.0 acres initial disturbance per access road (less than 1 mile per well)
- 3.5 acres long-term disturbance per access road per producing well
- 0.5 acres of access road stabilized per producing well, after 3 years
- 4.0 acres of access road stabilized per abandoned dry well, after 3 years
- 3.5 acres of access road stabilized per abandoned producing well, after 3 years

Road standards would be in conformance with guidelines issued in BLM Manual 9113 (Roads) and in Surface Operating Standards for Oil and Gas Exploration and Development (1989).

Drill Pads:

- 3.5 acres initial disturbance per average well pad
- 1.0 acre long-term disturbance per producing well
- 2.5 acres stabilized per producing well, after 3 years
- 3.5 acres stabilized per abandoned dry well, after 3 years
- 1.0 acre stabilized per abandoned producing well, after 3 years

Pipelines and Powerlines:

- 6.0 acres initial disturbance per producing well
- 5.5 acres stabilized per producing well, after 3 years
- 0.5 acres long-term disturbance
- 0.5 acres stabilized per abandoned producing well, after 3 years

Statistics on drilling activity and surface disturbance assumptions were used to project acres of disturbance, stabilization, and net long-term disturbance for the planning area and each of the 3 Special Study Areas. For each of these tables, the Most Probable Future Projection and Maximum Future Projection of drilling activity was used and acreage figures were determined for the period 1990 to 2010.

Hydrogen Sulfide Risk Analysis

An analysis of the risk of exposure to hydrogen sulfide was prepared (see Appendix 7-6 of the Draft EIS, H₂S Risk Analysis). During analysis of issues, the risk of hydrogen sulfide exposure in populated areas was identified as a public issue. Statistical analysis indicates that there is a 1 in 1,000,000 chance that over the next 20 years one or more well blowouts would occur, causing exposure to 500 ppm of hydrogen sulfide at distances of more than one mile from a drilling well, producing location, or processing facility containing this gas.

Oil and Gas Produced Water Disposal Methods

1. Reinjection
2. Disposal pits - estimated 0.1 acre each
3. Discharge (DEQ water quality standards would be met)

Coalbed Methane Potential and Projected Drilling Activity

A Reasonable Foreseeable Development Scenario for Coalbed Methane was prepared for the planning area (Stilwell 1991). This report indicated that known Tertiary and Upper Cretaceous coalbeds in the planning area have been found to contain methane. The coalbeds themselves are the source rock and potential reservoir for methane. Also, thermal maturation appears to have progressed far enough to generate methane and adequate permeabilities and porosities are present in the coalbeds. For these reasons, near surface occurrences of Tertiary and Upper Cretaceous coalbeds (outcrop to a depth of about 5,000 feet) have been assigned a high potential for occurrence of coalbed methane (Map 89 and Map 90). Those parts of the planning area underlain by Tertiary and Upper Cretaceous rocks, at depths below 5,000 feet, were assigned a moderate potential. On the crest of the Rock Springs Uplift, where these coalbeds have been eroded and are no longer present, an area designated as no potential was mapped.

Potential for development of the resource was also addressed and an area of high potential development was assigned. Coalbed methane development activity is expected to occur in a limited area from 1990 through 2000 (Map 91). During this period, between 37 and 300 wells could be drilled. The Minimum Future Projection of 37 wells drilled is expected to occur if significant reserves of coalbed methane are not discovered. The assumed success ratio at this projection is 0.15.

If coal gas areas presently being explored are determined to be economically productive, development activity would increase to 300 wells. This is assumed to be the Most Probable Future Projection of activity in the planning area. At this activity level, the success ratio is expected to be 0.80. It is assumed that 98 percent of the wells projected to be drilled at the 37 well and 300 well activity levels would be drilled within the area delineated on Map 91. The remaining 2 percent of these wells would be scattered throughout the planning area.

Coalbed Methane Surface Disturbance

These guidelines for access roads, drill pads, and pipelines and powerlines would be used to determine acres of surface disturbance associated with coalbed methane exploration and development drilling activities.

Access Roads:

- 40 feet total disturbance
- 16-foot-wide travelway
- 4.8 acres initial disturbance per linear road mile
- 4.8 acres initial disturbance per well drilled
- 4.0 acres long-term disturbance per producing well
- 0.8 acres stabilized per producing well, after 3 years
- 4.8 acres stabilized per abandoned dry well, after 3 years
- 4.0 acres stabilized per abandoned producing well, after 3 years

Road standards would be in conformance with guidelines issued in Bureau Roads Manual 9113 and in Surface Operating Standards for Oil and Gas Exploration and Development (1989).

Drill Pads:

- 3.0 acres initial disturbance per average well pad
- 1.0 acre long-term disturbance per producing well
- 2.0 acres stabilized per producing well, after 3 years
- 3.0 acres stabilized per abandoned dry well, after 3 years
- 1.0 acre stabilized per abandoned producing well, after 3 years

Pipelines and Powerlines:

- 6.0 acres initial disturbance per producing well
- 5.5 acres stabilized per producing well, after 3 years
- 0.5 acres long-term disturbance per producing well
- 0.5 acres stabilized per abandoned producing well, after 3 years

Projections of drilling activity and surface disturbance assumptions were used to project acres of disturbance, stabilization, and net long-term disturbance for the planning area. The Minimum Future Projection and a Most Probable Future Projection of drilling activity were used and acreage figures were determined for the period 1990 to 2000.

Coalbed Methane Spacing

For up to 100 wells, 160-acre spacing would be used. For up to 200 wells, 320-acre spacing would be used.

Coalbed Methane Produced Water Disposal Methods

1. Reinjection
2. Disposal ponds - estimated 2 acres each
3. Discharge (DEQ water quality standards would be met)
4. Treatment with a portion disposed of in ponds and a portion discharged (DEQ water quality standards would be met)

Locatable Minerals

Many of the operators and claimants who have submitted Plans, Notices, and/or Annual Assessment Work would continue to do so at a rate of 4 to 10 per year. The number of mining claims held in the Resource Area decreased with the enactment of new mining claim rental fees and assessment laws. New mining claims would continue to be filed on lands within the planning area at a rate of 1 to 10 per year.

Lands which are most likely to have new mining claims located on them include:

- a) areas covered by igneous and metamorphic rocks.
- b) areas covered by Tertiary age rocks.

- c) areas adjacent to new mining claims that are open to mineral location but are non-mineral in character, to be used for the location of millsites.

No more than 1 to 10 acres a year would be disturbed due to exploration activity.

If the oil shale withdrawal is lifted, exploration activity and claim staking for diamonds would immediately increase. The majority of the initial exploration would involve geophysical methods coupled with hand sampling, causing little or no surface disturbance. Drilling for diamonds would only be done after small specific targets have been isolated.

Although there is low potential for a gold or jade (nephrite jade) mine to be developed, the most likely location for these mines would be the Wind River Front. A jade mine has the potential for recovering as much as 500 tons of ore per year with a minor amount of surface disturbance (Table A12-1-12). As much as 320,000 tons per year of ore could be processed during the development of a gold mine. The area of gold mine disturbance would be about 53 acres over its life (Table A12-1-13).

Mineral Materials

Requests would continue to be received for Free Use Permits for mineral materials (usually gravel and/or borrow material) from other Federal agencies, State agencies, and local and city governments. Most of this material would be used for maintenance and/or expansion of existing road and highway systems. The total amount of material requested would vary from 30,000 to 800,000 cubic yards a year.

Requests would continue to be received for Negotiated Sales of gravel, crushed rock, or other road base from private companies and individuals. Most of this material would be used to build or maintain access roads associated with well sites, other oil and gas projects, coal mines, and trona plants. Some would be used for building projects of private individuals. The amount of material sold would range from 1,000 to 50,000 cubic yards of gravel or crushed rock a year.

Expansion of existing mineral material sites (gravel) and the development of new sources would be counterbalanced by reclamation activities; therefore, the amount of surface disturbance (approximately 1,080 acres) would remain relatively constant. Requests for topsoil, moss rock, building stone, and flagstone would continue to be received from the public for home improvement (about 10 to 50 inquiries a year).

The location and size of borrow pits would depend mostly on the location of a building project (the largest user of borrow material would continue to be the Wyoming Department of Transportation). Suitable borrow material can be found throughout the planning area.

The location and size of gravel pits would depend on the location and size of a given building project and the quantity and quality of material needed for that project. The areas having the most potential for containing a large amount of gravel are marked on Map 68. These areas have the highest probability for the development of a gravel pit. Some potential for gravel pits exists outside of the areas marked (not every gravel deposit is noted on the map).

Assumptions for Expanded Impact Analysis Area

The reasonably foreseeable development scenario for the expanded impact analysis area utilized the same assumptions and

guidelines as that for the planning area. To obtain a projection of the number of total wells drilled in this larger area, additional assumptions had to be made. When comparing our projections of wells to be drilled in the planning area and those of Barlow and Haun (see comment reply 63-1), we found both projections to be very close if compared to percentage of wells actually drilled in the planning area. We assumed that percentage would still be true for the expanded area being studied.

Our analysis showed that about 75 percent of all wells actually drilled in the Greater Green River Basin are within the expanded impact analysis area. Multiplying 75 percent by the 7,200 wells projected by Barlow and Haun for the entire Greater Green River Basin results in a projection of 5,400 total wells to be drilled in the expanded analysis area. This 5,400 figure is the total number of new wells that could be drilled in the expanded analysis area, if no new restrictions on drilling activity are needed.

By taking the 5,400 wells (total wells in the expanded impact analysis area) and subtracting 2,485 wells (total wells within the planning area), we find that 2,915 wells will be drilled in that area outside the planning area but within the expanded impact analysis area. We next assumed that the proportion between the most likely and maximum projections remains the same for the wells outside the planning area as for those wells projected inside the planning area. This proportion is multiplied by the maximum projection of wells to be drilled outside the planning area ($53\% \times 2,915 = 1,558$) to obtain the number of wells to be drilled outside the planning area for the other three alternatives. The proportion is found by using the equation: $\{1,328 \text{ (Alt. A most likely)}\} \text{ divided by } \{2,485 \text{ (Alt. B maximum)}\}$ equals 53 percent.

The 1,558 wells, calculated above, are added to the total wells projected in the planning area for each of the other three alternatives (see below). This allows us to obtain a projection of the total number of wells that may be drilled under the Proposed Plan and Alternatives A and C. We use 1,558 for each of the three alternatives because the restrictions tied to these alternatives will not affect those areas outside the planning area.

Proposed Plan	1,300 (planning area) + 1,558 (Outside planning area) = 2,858 (Cumulative Area)
Alternative A	1,328 (planning area) + 1,558 (Outside planning area) = 2,886 (Cumulative Area)
Alternative B	2,485 (planning area) + 2,915 (Outside planning area) = 5,400 (Cumulative Area)
Alternative C	1,296 (planning area) + 1,558 (Outside planning area) = 2,854 (Cumulative Area)

Along with the number of wells, existing and developing units were analyzed. Maps and more information on these units are on file in the Green River Area Office. The following projects and developments were also taken into consideration in the impact analysis: Sodium Mineral Development, Dripping Rock Unit, Hickey & Table Mountain, Soda Unit, Big Piney/LaBarge CAP, Hay Reservoir, Greater Wamsutter I, Bird Canyon Project, Mulligan Draw, Moxa Arch Expanded Area, Mobil Project Area, Burley Field Project, Creston/Blue Gap, Greater Wamsutter II, and Wold Subsurface Trona Mine.

The following projects are already considered in the Reasonably Foreseeable Development scenario for the GRR: Altamont, Big Cone/Sublette Flat Units, Birch Creek, BTA Bravo Unit Development, Bull Draw/Elk Horn Units, East LaBarge Infill Project, Fontenelle Unit II Infill, Jonah Field, Lario Essex Mountain Proposal, Lincoln Road Development Area, Long Canyon/Pine Canyon Development Area, Mainline 58, Salt Wells/Potter Mountain, Stage-

coach Draw, Steamboat Mountain, and Texaco/Washington Energy Infill Project.

Off-Road Vehicles

The Sand Dunes area would continue to operate as an open off-road vehicle play area. Use is increasing and it is anticipated that facilities such as a campground, water, picnic area, and loading-unloading ramps would be constructed.

The planning area has had applications for off-road events such as hill climbs and cross-country races. These have been denied in the past. Off-road events in the California and Nevada desert continue to be reduced due to conflicts with desert tortoise habitat. More pressure from off-road groups for these activities would be felt in the form of applications and requests.

Signing and enforcement of off-road vehicle plans would continue or be initiated.

Recreation Resource

People presently engage in recreational activities in the planning area in a dispersed manner. This trend would continue to increase even after more developed sites are constructed. Future recreation use would increase in the planning area.

Bear bait permits are not issued at this time and it is not anticipated that they would be in the future.

Recreation at the Fontenelle Reservoir site is currently being managed by the BLM on an interim basis. No new facilities are planned on the Green River.

Socioeconomics

The basic assumptions used in determining socioeconomic impacts and depicting their impact is the use of a 20-year planning horizon for the period 1991-2010. During this period, for planning purposes, it assumed that prices will remain constant for all commodities, thereby allowing a consistent basis for comparison.

The contribution of the mineral industry is measured in the quantity of each product produced, related to the value of that product, the direct income, and the indirect components of those income streams, and the purchases (expenditures on) of services and input products. In addition, the payment of direct taxes such as severance taxes to the state and the payment of ad valorem taxes to the county, cities and towns and the school systems along with the refunds of that share of the royalties collected on Federal lands, half of which are returned to the county of production, are major contributors of revenue to this area.

Base year 1990 coal output and related output values would be 11.9 million tons and \$212 million, respectively.

Appendix 10-6 shows the contribution of the mineral industry as measured by value of product. Direct output for the various options ranges from \$18.8 to \$22.4 billion. The total impact on area output varies from \$31.4 to \$37 billion. The direct income effects are between \$2.5 to \$3 billion, while the impacts on total area income range from \$4.8 to more than \$5.5 billion. The severance taxes range from \$0.9 to \$1.1 billion, while the ad valorem taxes are almost \$1.0 to nearly \$1.2 billion. In addition the state's share of royalties collected on Federal lands is in the range of slightly less than \$600 million to more than \$700 million. These values that accrue directly to state, county, other local government and schools range from \$2.5 to more than \$3.0 billion.

Vegetation

Two precipitation zones cover 98 percent of the planning area. In the 7- to 9-inch zone of annual precipitation, stabilizing vegetative ground cover would occur in 2 to 3 years. Brush establishment/invasion to create a vegetative landscape similar to the adjacent lands would occur in 15 to 20 years. In the 10- to 14-inch zone of annual precipitation, stabilizing vegetative ground cover would be established within 2 years. Brush invasion to create a vegetative landscape similar to adjacent lands would occur within 13 to 15 years.

Adequate forage is available for current wildlife objective numbers.

Visual Resources

Visual resource management designations would be incorporated into all project planning. Designations would be managed with mitigation or by avoidance when affected by projects or activity impacts. Visual resources would continue to be given special consideration in the South Pass area where historical values are present.

Wild Horses

There would be a 20 percent annual increase in horse numbers and gathering would occur about every 2 years.

About 30 acres would be disturbed and vegetation and forage removed from developing wild horse traps.

Wildlife

Over the past 20 years, 2 spring developments, 8 water wells, 12 guzzlers, 30 exclosures, 29 potholes, 26 nesting structures, 11 gully plugs, 3 gabion weirs, 33 log overpours, 5 fish hatching facilities, and 7 revegetation plantings have been completed within the planning area. Through 2010, it is assumed that the same number of developments of each type would be completed.

The spring developments, water wells, and guzzlers would be protected by fences. Average exclosure size is: 1 acre for spring developments, 0.50 acres for water wells, and 0.75 acres for guzzlers. The average size of 10 special management exclosures would be 233 acres, while the average size of 20 riparian management exclosures would be 23.5 acres. The average pothole measures 35 feet by 35 feet and would disturb about 0.03 acre. Gabion weirs are 66.3 feet in length and would impound 0.20 acres of water. The average area of each revegetation planting (trees) would be 24.7 acres.

About 1,600 raptor nests have been located and are listed as "active." Within the next 10 years, an additional 120 nests may be located.

About 114 sage grouse strutting grounds have been identified over the past 20 years. An additional 40 strutting grounds may be identified within the next 10 years.

PROPOSED PLAN

Assumptions

In addition to the Assumptions and Assessment Guidelines for all alternatives, the following assumptions for lands and realty, livestock grazing, minerals, off-road vehicles, socioeconomics, and wild horses specifically apply to the Proposed Plan.

Lands and Realty

About 24,527.69 acres would be identified as possibly suitable for disposal through sale or exchange actions. About 28,182 acres are proposed for land acquisition (see Appendix 8-3). Approximate acreage of additional withdrawals would be about 261,764 acres.

Land Use Authorizations

Over the next 20 years, an average of 300 permits, 4 leases, and 1,915 right-of-way grants would be issued.

Table A12-1-14 shows the number and acres of authorizations over a 20-year period. Not all authorizations result in surface disturbance.

Estimated total acreage disturbed over a 20-year period would be 9,158 acres plus 1,380 acres for mine start up. This does not include acres of disturbance (roads, pipelines, etc.) associated with oil, gas, and coalbed methane production shown under Oil and Gas Assumptions).

Estimated total acreage reclaimed over a 20-year period would be 7,000 acres (this does not include acres of oil and gas roads and pipelines relinquished and reclaimed shown under Oil and Gas Assumptions).

It is assumed that three new right-of-way windows would be located along State Highways 430 and 530, and paralleling the east side of the Flaming Gorge.

No lands would be provided for desert land entries or agricultural leases which have salinity/soil constraints.

Withdrawal Revocation

Table 2-6 presents the withdrawals that would be revoked or retained for each alternative.

Livestock Grazing

Adequate forage would be available for current wildlife objective numbers. About 67,700 acres would be treated by prescribed fire to improve forage.

Minerals

Coal Operations

It is reasonable to expect that mining operations would continue on those lands currently held under lease and on lands where lease applications have been submitted and may be approved for leasing over the next 20 years. Current coal mining operations are Black Butte, Pit 22, Bridger, and Lion Coal. It is assumed that two areas may have new surface mining operations within the next 10 to 20 years. The Deadman Wash tract and the Elk Butte (Beans Spring/Pio) area may have coal mining activity that would support local and interstate markets. Map 87 shows the areas in which this surface disturbance is most likely to occur. Table A12-1-15 shows the estimated amount of yearly coal production and total production from mining within these areas. About 430.9 million tons, life of mine, recoverable coal would be available. The average yearly amount of disturbance would be about 670 acres with an average production of about 11.4 million tons of coal.

Oil and Gas

Tables showing projected drilling activity and associated surface disturbance were prepared for the planning area (Table A12-1-16).

each of the three Special Study Areas (Table A12-1-17, Table A12-1-18, and Table A12-1-19), and for coalbed methane (Table A12-1-20). In addition, projected production rates of oil and gas through 2010 are shown on Table A12-1-11.

Locatable Minerals

An oil shale withdrawal covers a large portion of the Green River and Washakie Basins within the planning area, prohibiting the location of mining claims. At some point, the oil shale withdrawal would be revoked. New mining claims would begin to be located in this large area after revocation, especially for zeolite in the Washakie Basin and diamonds in the Green River Basin.

It is assumed that demand for naturally occurring zeolite would increase, just as demand for naturally occurring sodium carbonate (trona) increased a few decades ago. At least 1 mining operation for zeolite deposits would be initiated. Such zeolite development would likely use the equipment and methods of a bentonite mine or a gravel pit, such as scrapers, dozers, belly dump trucks, etc. A large zeolite mining operation would employ approximately 8 to 10 people. A proposal for a zeolite mine projected an operation mining 9 to 10 months of the year, at an annual rate of up to 100,000 tons. Table A12-1-21 projects the amount of surface disturbance associated with a hypothetical zeolite mine.

Recreation

1990 data show that 371,739 visitor days were spent in the planning area. It is anticipated that visitor use days would increase by approximately 60 percent (3 percent per year) over 20 years due to the natural increase in people anticipated from mineral development.

Socioeconomics

The Proposed Plan uses the basic assumptions for the 20-year period being assessed with prices and other factors such as tax rates also constant.

The current level of livestock active preference (historically established) AUMs (318,647 AUMs) and actually utilized AUMs each year would remain unchanged over the next 20 years. In effect, total active preference for livestock use would be 318,647 AUMs/year on publicly managed land with actual use on this land ranging between 180,000 and 200,000 AUMs. The BLM manages about 95 percent (302,715 AUMs) of the public AUMs. The balance (15,932 AUMs) are managed by BOR and USFS. It is also assumed that active preference AUMs are in proper condition for grazing and that there are no unforeseen costs or adverse impacts resulting from this level of AUM use to reduce the total output value.

Changes in annual coal output over the 20 years are due in part to the opening and closing of various mines during that time frame. In 1990, there are a total of 4 active mines, while in the peak year 2006, five active mines are projected. Beans Spring mine would be on line and beginning operations and the Lion mine is expected to be nearing closure of operations by 2005.

Wild Horses

Fifteen water developments would be proposed in the Rock Springs Allotment primarily to enhance wild horse habitat (see Proposed Allotment Projects Appendix in Draft EIS). Only controlled waters (i.e., wells) would be developed.

ALTERNATIVE A (NO ACTION ALTERNATIVE)

Assumptions

In addition to the Assumptions and Assessment Guidelines for all alternatives, these assumptions for lands and realty, livestock grazing, mineral, and socioeconomics specifically apply to Alternative A, the No Action Alternative.

Lands and Realty

About 9,123 acres would be identified as possibly suitable for disposal through sale/exchange actions. About 30,770 acres are proposed for land acquisition which includes 640 acres for ACECs, 40 acres for cultural, 840 acres for riparian, 4,480 for state inholdings in WSAs, 3,040 acres for wild and scenic rivers, 3,380 acres for wildlife, 18,300 acres for watershed, and 50 acres for public access. Approximate acreage of additional withdrawals would be 34,859 acres. All withdrawals would be retained.

Land Use Authorizations

During a 20-year period, an average of 200 permits, 2 leases, and 1,667 rights-of-way would be issued.

Table A12-1-14 shows the number and acres of authorizations over a 20-year period. Not all authorizations result in surface disturbance.

Estimated total acreage disturbed over a 20-year period would be 8,325 acres (this does not include the disturbance associated with oil, gas, and coalbed methane production shown under Oil and Gas Assumptions).

Estimated total acreage reclaimed over a 20-year period would be 6,500 acres (this does not include the reclaimed acreage of oil and gas roads relinquished and reclaimed shown under Oil and Gas Assumptions).

Lands would be provided for Desert Land Entries and Agricultural Leases.

Withdrawal Revocations

Table 2-6 presents the withdrawals that would be revoked or retained for each alternative.

All existing withdrawals would be retained under Alternative A.

Livestock Grazing

Adequate forage is available for current wildlife objective numbers. About 26,700 acres would be treated by using prescribed burns to improve forage. Anticipated actual use would be the actual preference of 318,647 AUMs.

Minerals

Coal Operations

The impacts would be the same as for the Proposed Plan. It is reasonable to expect that mining operations would continue on those lands currently held under lease and on lands where lease applications have been submitted and may be approved for leasing over the next 20 years. Current mining operations are Black Butte/Pit 22,

Bridger, Lion Coal, and Pilot Butte coal mines. It is assumed that two areas would have new surface mining operations within the next 5 to 15 years. The Deadman Wash tract and the Elk Butte (Beans Spring/Pio) area would have coal mining activity to support local and interstate markets. Map 87 shows the areas in which this surface disturbance is most likely to occur. Table A12-1-15 shows the estimated amount of yearly coal production and total production from mining these areas. About 430.9 million tons, life of mine, recoverable coal would be available. The average yearly amount of disturbance would be about 670 acres with an average production of about 16 million tons of coal.

Oil and Gas

Tables of Projected Drilling Activity and Associated Surface Disturbance were prepared for the planning area (Table A12-1-22), each of the 3 Special Study Areas (Table A12-1-17, Table A12-1-23, and Table A12-1-19), and for coalbed methane (Table A12-1-24). Table A12-1-11 projects annual production rates of oil and gas through 2010.

Recreation

1990 data show that 371,739 visitor days were spent in the planning area. For this No Action Alternative and comparison purposes, it is assumed that the level of recreation usage on public lands will remain constant for the next 20 years. Some recreational activities could increase while others decrease, resulting in no net growth.

Socioeconomics

Alternative A uses the basic assumptions of constant prices and other factors over the 20-year planning horizon. This provides a fixed basis for comparison among the alternatives.

Livestock assumptions are the same as discussed in the Proposed Plan.

The resource area has not had a timber harvest in the last several years because none of the timber put up for sale has been sold. However, for the sake of this analysis, it is assumed that the proposed timber sales would be completed by BLM each year over the 20 years and that the wholesale value of the resulting timber at the mill would be between \$175 and \$220 per thousand board feet. It is also assumed that the timber from these sales would be milled at sawmills in Afton, Evanston, or Mountain View.

Since there has not been any BLM timber harvested, it is difficult to estimate what products might be produced under this alternative. However, it is thought that studs and mine timbers would be produced from the larger timber and mine spikes and chips from smaller logs. The prices used in this analysis are studs (\$175/thousand board feet) and mine timbers (\$195 to \$220/thousand board feet).

Wild Horses

No new water developments would be constructed for wild horse herd area management.

ALTERNATIVE B

Assumptions

In addition to the Assumptions and Assessment Guidelines for all alternatives, these assumptions for lands and realty, livestock graz-

ing, minerals, off-road vehicles, and socioeconomics specifically apply to Alternative B.

Lands and Realty

About 24,526.69 acres would be identified as possibly suitable for disposal through sale/exchange actions. About 31,020 acres are proposed for land acquisition which includes 640 acres for ACECs, 40 acres for cultural, 840 acres for riparian, 4,480 for state inholdings in WSAs, 3,040 acres for wild and scenic rivers, 3,380 acres for wildlife, 18,300 acres for watershed, and 300 acres for public access. The approximate acreage of additional withdrawals would be 34,699 acres.

Land Use Authorizations

During a 20-year period, an average of 100 permits, one lease, and 1,839 rights-of-way would be issued.

Table A12-1-14 shows the number and acres of authorizations over a 20-year period. Not all authorizations result in surface disturbance.

Estimated total acreage disturbed over a 20-year period is the same as the Proposed Plan. It is estimated that there would be 9,158 acres plus 1,380 acres for mine start up (this does not include the roads associated with oil, gas, and coalbed methane production shown under Oil and Gas Assumptions).

Estimated total acreage reclaimed over a 20-year period is the same as the Proposed Plan (7,000 acres) (this does not include the oil and gas roads relinquished and reclaimed shown under Oil and Gas Assumptions).

Land would be provided for desert land entries or agricultural leases.

Withdrawal Revocation

Table 2-6 presents the withdrawals that would be revoked or retained for each alternative.

Livestock Grazing

About 290,000 acres would be treated by using prescribed burns to improve forage.

Intensive management of I and M allotments and implementation of rangeland improvements would allow 105,000 AUMs, currently in suspended non-use, to be reactivated. Ninety percent, or 94,500 AUMs would be reallocated to livestock while the other 10 percent would be reallocated to wildlife and/or wild horses.

Minerals

Coal Operations

It is reasonable to expect that current mining operations would continue, areas under lease or lease application would be developed, and areas having had expressions of interest for surface mining would be leased. Those areas that would continue to be mined or that have potential for surface disturbance from potential mining include Elk Butte (Beans Spring/Pio), Black Butte/Pit 22, Bridger, Cooper Ridge, Deadman Wash, Deer Butte, Lion Coal, and Pilot Butte. Table A12-1-25 shows the estimated amount of yearly production and total production from mining these areas. About 430.9 million tons of recoverable coal would be mined during this plan. The average yearly amount of disturbance would be about 740 acres with an average yearly production of about 17 million tons.

Oil and Gas

Tables of Projected Drilling Activity and Associated Surface Disturbance were prepared for the planning area (Table A12-1-22), each of the 3 Special Study Areas (Tables A12-1-17, A12-1-23, and A12-1-19), and for coalbed methane (Table A12-1-24). Table A12-1-11 projects annual production rates of oil and gas through 2010.

Locatable Minerals

An oil shale withdrawal covers a large portion of the Green River and Washakie Basins within the planning area, prohibiting the location of mining claims. At some point, the oil shale withdrawal would be revoked. New mining claims would begin to be located in this area after revocation, especially for zeolite in the Washakie Basin.

It is assumed that demand for naturally occurring zeolite would increase, just as demand for naturally occurring sodium carbonate (trona) has increased. At least 1 mining operation for known zeolite deposits would be initiated. Such zeolite development would likely use the equipment and methods of a bentonite mine or a gravel pit, such as scrapers, dozers, belly dump trucks, etc. A zeolite mining operation would employ approximately 8 to 10 people mining 9 to 10 months of the year, at an annual rate of up to 100,000 tons. Table A12-1-21 projects the amount of surface disturbance associated with a hypothetical zeolite mine.

Recreation

1990 data show that 317,739 visitor days were spent in the planning area. It is anticipated that visitor use would increase by approximately 80 percent (4 percent/year) over 20 years due to an annual influx of people into the area from mineral development. This projection assumes that mineral development would increase.

Socioeconomics

The basic assumptions used for this 20-year planning horizon are constant prices and other factors such as tax rates.

Of the 413,147 AUMs of potential active preference under this alternative, the BLM would manage 95 percent (392,490 AUMs). Consequently, this is the level of AUMs that could be expected with certainty to be available to livestock in years with satisfactory range conditions. The remaining 20,657 AUMs that are managed by other public agencies (BOR and USFS) may or may not be allocated to livestock use over the next 20 years. However, it is assumed that all 413,147 AUMs could be recognized as the maximum active preference level and that these AUMs would be allocated to livestock use in years when range conditions permitted such an allocation and livestock owners requested the use of these AUMs. Potential actual use under Alternative B ranges from 180,000 AUMs to 413,147 AUMs, compared to a range of 180,000 AUMs to 200,000 AUMs under the Proposed Plan, Alternative A, and Alternative C. However, even if proposed range improvements resulted under Alternative B, actual use would remain at the current level of 180,000 to 200,000 AUMs unless livestock owners requested additional use above current AUM levels.

Timber assumptions are the same as discussion in Alternative A.

Wild Horses

Fifteen water developments would be proposed in the Rock Springs Allotment primarily to enhance wild horse habitat (see

Proposed Allotment Projects Appendix in Draft EIS). Only controlled waters (i.e., wells) would be developed.

ALTERNATIVE C

Assumptions

In addition to the Assumptions and Assessment Guidelines for all alternatives, these assumptions for lands and realty, livestock grazing, minerals, off-road vehicles, and socioeconomics specifically apply to Alternative C.

Lands and Realty

About 13,043 acres would be identified as possibly suitable for disposal through sale or exchange actions. About 19,620 acres are proposed for land acquisition which includes 640 acres for ACECs, 40 acres for cultural, 840 acres for riparian, 5,120 for state inholdings in WSAs, 3,040 acres for wild and scenic rivers, 3,380 acres for wildlife, 4,020 acres for fisheries, 1,920 acres for candidate plant species, 960 acres for watershed, and 300 acres for public access. Approximate acreage of additional withdrawals would be 279,324 acres.

Land Use Authorizations

During a 20-year period, an average of 300 permits, 4 leases, and 1,452 rights-of-way would be issued.

Table A12-1-14 shows the number and acres of authorizations over a 20-year period. Not all authorizations result in surface disturbance.

Estimated total acreage disturbed over a 20-year period would be 7,493 acres (this does not include the roads associated with oil, gas, and coalbed methane production shown under Oil and Gas Assumptions).

Estimated total acreage reclaimed over a 20-year period is the same as the Proposed Plan (7,000 acres) (this does not include the oil and gas roads relinquished and reclaimed shown under Oil and Gas Assumptions).

No desert land entries or agricultural leases would be authorized within this planning area due to salinity/soil constraints.

Withdrawal Revocation Table 2-6 presents the withdrawals that would be revoked or retained for each alternative.

Livestock Grazing

Adequate forage is available for current wildlife objective numbers. Forage increases would be given first to wildlife and wild horses and then to livestock. About 26,700 acres would be treated by using prescribed burns to improve forage. No new fences would be built and herder control for all livestock would be instituted. Estimated actual use would be 180,000 to 200,000 AUMs.

Minerals

Coal Operations

It is reasonable to expect that further leasing would not occur, but that mines currently operating and areas currently under lease would be developed (Black Butte/Pit 22, Bridger, Lion Coal, and Pilot Butte areas). Table A12-1-26 shows the estimated amount of yearly coal production and total production from mining these areas. About

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375.5 million tons, life of mine, recoverable coal would be available. The average yearly amount of disturbance would be about 528 acres with an average yearly production of about 14.8 million tons of coal.

Oil and Gas

Tables of Projected Drilling Activity and Associated Surface Disturbance were prepared for the planning area (Table A12-1-27), each of the 3 Special Study Areas (Table A12-1-17, Table A12-1-18, and Table A12-1-19) and for coalbed methane (Table A12-1-20). Table A12-1-11 projects annual production rates of oil and gas through 2010.

Locatable Minerals

An oil shale withdrawal covers a large portion of the Green River and Washakie Basins within the planning area, prohibiting the location of mining claims. At some point, the oil shale withdrawal would be revoked. New mining claims would begin to be located in this area after revocation, especially for zeolite in the Washakie Basin.

It is assumed that demand for naturally occurring zeolite would increase, just as demand for naturally occurring sodium carbonate (trona) has increased. At least 1 mining operation for known zeolite deposits would be initiated. Such zeolite development would likely use the equipment and methods of a bentonite mine or a gravel pit, such as scrapers, dozers, belly dump trucks, etc. A zeolite mining operation would employ approximately 8 to 10 people mining 9 to 10 months of the year, at an annual rate of up to 100,000 tons. Table A12-1-21 projects the amount of surface disturbance associated with a hypothetical zeolite mine.

Recreation

The 1990 data show that 371,739 visitor days were spent in the Green River Resource Area. It is anticipated that visitor use days would increase by approximately 40 percent (2 percent per year) over 20 years due to historical trends of recreation increase as reflected in the annual Recreation Management Information System (RMIS) Report.

Socioeconomics

The fundamental assumptions of constant prices and other factors such as taxes and multipliers are followed here for the 20-year planning horizon. This alternative, along with Alternative A, is less aggressive.

Livestock assumptions are the same as discussed in the Proposed Plan.

Of the 4 mines active at the beginning of the next 20 years, only Black Butte, Bridger, and Pilot Butte would still be on line by 2010. Lion Coal mine would cease production after 2001.

Wild Horses

Fifteen water developments would be proposed in the Rock Springs Allotment primarily to enhance wild horse habitat (see Proposed Allotment Projects Appendix in Draft EIS). Only controlled waters (i.e., wells) would be developed.

TABLE A12-1-1
ESTIMATED COAL RESERVES BY TRACT AREA

Tract Area	Mineable (Million Tons)	Recoverable (Million Tons)
Bridger	174.7	149.5
Black Butte/Pit 22	177.1	159.4
Deadman Wash	23.5	21.0
Cooper Ridge	59.0	53.0
Elk Butte (Beans Spring/Pio)	65.2	58.4 (34.4) (24.0)
Pilot Butte	132.0	66.0
Lion Coal	1.2	0.6
Deer Butte	56.0	50.5
TOTALS	688.7	558.4

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TABLE A12-1-2
BRIDGER COAL MINE
SURFACE MINE OPERATION¹

Year	Acres Disturbed	Total Disturbed²	Total Acreage Reclaimed³	Unreclaimed
1990	291 ⁴	5,371	1,246	4,125
1991	235	5,606	1,336	4,270
1992	300	5,906	1,526	4,380
1993	400	6,306	1,776	4,530
1994	400	6,706	2,071	4,635
1995	350	7,056	2,296	4,760
1996	390	7,446	2,586	4,860
1997	200	7,646	2,886	4,760
1998	150	7,796	3,176	4,620
1999	190	7,986	3,666	4,320
2000	175	8,161	3,891	4,270
2001	200	8,361	4,141	4,220
2002	125	8,486	4,376	4,110
2003	160	8,646	4,466	4,180
2004	160	8,806	4,536	4,270
2005	230	9,036	4,716	4,320
2006	210	9,246	4,776	4,470
2007	110	9,356	4,776	4,580
2008	150	9,506	4,841	4,665
2009	100	9,606	4,876	4,730
2010	115	9,721	4,941	4,780
2011	110	9,831	4,981	4,850

¹ Mine life is anticipated to extend beyond 2011.

² Part of this has been reclaimed. Subtracted Total Acreage Reclaimed from Total Disturbance to obtain Unreclaimed figure.

³ Adjustments for 3-year stabilization have been made.

⁴ Actual acres disturbed.

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TABLE A12-1-3
BLACK BUTTE/PIT 22 MINE
SURFACE MINE OPERATION¹

Year	Acres Disturbed	Total Disturbed²	Total Acreage Reclaimed³	Unreclaimed
1990	427 ⁴	8,350	3,150	5,200
1991	400	8,750	3,200	5,550
1992	350	9,100	3,400	5,700
1993	335	9,435	3,635	5,800
1994	150	9,585	4,346	5,239
1995	207	9,792	5,096	4,696
1996	195	9,987	5,773	4,214
1997	200	10,187	6,147	4,040
1998	213	10,400	6,749	3,651
1999	187	10,587	7,277	3,310
2000	207	10,794	7,487	3,307
2001	203	10,997	7,640	3,357
2002	195	11,192	7,850	3,342
2003	230	11,422	8,085	3,337
2004	175	11,597	8,070	3,527
2005	200	11,797	8,159	3,638
2006	220	12,017	8,315	3,702
2007	205	12,222	8,840	3,382
2008	175	12,397	9,300	3,097
2009	205	12,602	9,505	3,097
2010	200	12,802	9,701	3,101
2011	195	12,997	9,800	3,197

¹ Mine life is anticipated to extend beyond 2011.

² Total disturbed to end of mine life (16,000 acres) includes Pit 22 mine.

³ Adjustments for 3-year stabilization have been made.

⁴ Actual acres disturbed.

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TABLE A12-1-4
LION COAL MINE
UNDERGROUND MINE OPERATION¹

Year	Acres Disturbed	Total Disturbed ²	Total Acreage Reclaimed ³	Unreclaimed
1990		5		5
1991				
1992				
1993				
1994	1	6	0	6
1995				
1996				
1997	1	7	0	7
1998				
1999				
2000				
2001		7	7	0 ³
2002				
2003				
2004				
2005				
2006				
2007				
2008				
2009				
2010				
2011				

¹ Disturbance equates to new air shafts.

² Adjustments for 3-year stabilization have been made.

³ Assume end of mine life.

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TABLE A12-1-5
PILOT BUTTE MINE
UNDERGROUND MINE OPERATION¹

Year	Acres Disturbed	Total Disturbed²	Total Acreage Reclaimed³	Unreclaimed
1990		197	0	197
1991		197	0	197
1992				
1993				
1994				
1995	2	198	0	198
1996				
1997				
1998	2	200	0	200
1999				
2000	1	200	0	201
2001	5	205	2	203
2002	1	206	2	204
2003	1	207	2	205
2004				
2005				
2006				
2007	1	208	2	206
2008				
2009				
2010	2	210	2	208
2011				

¹Mine life is anticipated to extend beyond 2011.

²Adjustments for 3-year stabilization have been made.

³ Assume end of mine life.

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TABLE A12-1-6
DEADMAN WASH MINE
SURFACE MINE OPERATION¹

Year	Acres Disturbed	Total Disturbed²	Total Acreage Reclaimed³	Unreclaimed
1990				
1991				
1992				
1993				
1994				
1995	100	100	0	100
1996	125	225	0	225
1997	210	435	60	375
1998	190	625	65	500
1999	150	775	75	575
2000	220	995	110	685
2001	135	1,130	35	785
2002	180	1,310	240	725
2003	175	1,485	90	775
2004	120	1,605	45	850
2005	160	1,765	80	930
2006	35	1,800	0	965 ³
2007	0	1,800	965	0
2008				
2009				
2010				
2011				

¹Mine life could extend beyond 2011 at lower production levels.

²Adjustments for 3-year stabilization have been made.

³Assume end of mine life.

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TABLE A12-1-7
ELK BUTTE (BEANS SPRING/PIO) MINE
SURFACE MINE OPERATION¹

Year	Acres Disturbed	Total Disturbed²	Total Acreage Reclaimed³	Unreclaimed
1990				
1991				
1992				
1993				
1994				
1995				
1996				
1997				
1998				
1999				
2000				
2001				
2002				
2003				
2004				
2005	100	100	0	100
2006	150	250	0	250
2007	100	350	0	350
2008	200	550	0	550
2009	200	750	50	700
2010	130	880	90	790
2011	200	1,080	150	930

¹Mine life is anticipated to extend beyond 2011.

²Adjustments for 3-year stabilization have been made.

³ Assume end of mine life.

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Table A12-1-8
COOPER RIDGE MINE
SURFACE MINE OPERATION¹

Year	Acres Disturbed	Total Disturbed²	Total Acreage Reclaimed³	Unreclaimed
1990				
1991				
1992				
1993				
1994				
1995				
1996				
1997				
1998				
1999				
2000				
2001				
2002				
2003				
2004				
2005				
2006	120	120	0	120
2007	140	260	0	260
2008	180	440	80	360
2009	210	650	100	470
2010	200	850	100	570
2011	200	1,050	160	610

¹ Mine life is anticipated to extend beyond 2011.

² Adjustments for 3-year stabilization have been made.

³ Assume end of mine life.

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TABLE A12-1-9
DEER BUTTE MINE
SURFACE MINE OPERATION¹

Year	Acres Disturbed	Total Disturbed²	Total Acreage Reclaimed³	Unreclaimed
1990				
1991				
1992				
1993				
1994				
1995				
1996				
1997				
1998				
1999				
2000				
2001				
2002				
2003				
2004				
2005				
2006				
2007				
2008	60	60	0	60
2009	100	160	0	160
2010	140	300	0	300
2011	200	500	110	390

¹ Mine life is anticipated to extend beyond 2011.

² Adjustments for 3-year stabilization have been made.

³ Assume end of mine life.

TABLE A12-1-10
HYPOTHETICAL SODIUM SOLUTION MINE
(100,000 ton/year potential)

Year	Production (100,000 tons)	Disturbance	Reclaimed	Total Disturbance	Total Reclaimed	Total Remaining Disturbance
1996	0	2	0	2	0	2.0
1997	100	7	0.5	9	0.5	8.5
1998	200	4	4.5	13	5.0	8.0
1999	300	4	2.0	17	7.0	10.0
2000	500	6	2.0	23	9.0	14.0
2001	700	3	4.0	26	13.0	13.0
2002	900	7	2.0	33	15.0	18.0
2003	1,000	4	4.5	37	19.5	17.5
2004	1,000	6	2.0	43	21.5	21.5
2005	1,000	3	2.0	46	23.5	22.5
2006	1,000	5	4.0	51	27.5	23.5
2007	1,000	4	2.0	55	29.5	25.5
2008	1,000	3	4.5	58	34.0	24.0
2009	1,000	1	2.0	59	36.0	23.0
2010	1,000	2	5.9	61	41.9	19.1
2011			19.1			

TABLE A12-1-11 (revised 2/24/93)
OIL AND GAS PROJECTED PRODUCTION RATES
(1990-2010)
Green River Resource Area

Year	Proposed Plan		Alternative A		Alternative B		Alternative C	
	Oil Production (BBLs) ¹	Gas Production (MCF) ²	Oil Production (BBLs) ¹	Gas Production (MCF) ²	Oil Production (BBLs) ¹	Gas Production (MCF) ²	Oil Production (BBLs) ¹	Gas Production (MCF) ²
1989 (actual)	6,308,491	178,456,566	6,308,491	178,456,566	6,308,491	178,456,566	6,308,491	178,456,566
1990	6,489,450	183,546,900	6,489,450	183,546,900	6,607,953	186,898,626	6,489,450	183,546,900
1991	6,641,811	187,856,262	6,641,811	187,856,262	6,890,103	194,878,926	6,641,811	187,856,262
1992	6,765,957	191,367,594	6,765,957	191,367,594	7,149,681	202,220,802	6,765,957	191,367,594
1993	6,777,243	191,686,806	6,782,886	191,846,412	7,307,685	206,689,770	6,771,600	191,527,200
1994	6,901,389	195,198,138	6,907,032	195,357,744	7,584,192	214,510,464	6,890,103	194,878,926
1995	6,856,245	193,921,290	6,867,531	194,240,502	7,708,338	218,021,796	6,850,602	193,761,684
1996	6,923,961	195,836,562	6,940,890	196,315,380	7,945,344	224,725,248	6,912,675	195,517,350
1997	6,839,316	193,442,472	6,861,888	194,080,896	8,035,632	227,278,944	6,828,030	193,123,260
1998	6,709,527	189,771,534	6,737,742	190,569,564	8,103,348	229,194,216	6,698,241	189,452,322
1999	6,596,667	186,579,414	6,636,168	187,696,656	8,182,350	231,428,700	6,585,381	186,260,202
2000	6,376,590	180,354,780	6,416,091	181,472,022	8,165,421	230,949,882	6,359,661	179,875,962
2001	6,331,446	179,077,932	6,382,233	180,514,386	8,329,068	235,578,456	6,320,160	178,758,720
2002	6,207,300	175,566,600	6,258,087	177,003,054	8,413,713	237,972,546	6,184,728	174,928,176
2003	5,981,580	169,182,360	6,043,653	170,938,026	8,424,999	238,291,758	5,970,294	168,863,148
2004	5,981,580	169,182,360	6,054,939	171,257,238	8,656,362	244,835,604	5,970,294	168,863,148
2005	6,066,225	171,576,450	6,145,227	173,810,934	8,978,013	253,933,146	6,049,296	171,097,632
2006	6,184,728	174,928,176	6,269,373	177,322,266	9,344,808	264,307,536	6,173,442	174,608,964
2007	6,156,513	174,130,146	6,252,444	176,843,448	9,576,171	270,851,382	6,145,227	173,810,934
2008	6,122,655	173,172,510	6,218,586	175,885,812	9,801,891	277,235,622	6,105,726	172,693,692
2009	6,105,726	172,693,692	6,212,943	175,726,206	10,055,826	284,417,892	6,088,797	172,214,874
2010	5,507,568	155,775,456	5,609,142	158,648,364	9,717,246	274,841,532	5,490,639	155,296,638

¹ Annual production per well = 5,643 barrels (BBLs) of oil.

² Annual production per well = 159,606 thousand cubic feet (MCF) of gas.

Assumptions: 1,118 wells producing in 1989 from fields entirely or partially within the Resource Area. Oil and gas production ratio will remain the same. Each well begins producing the year it is completed.

APPENDIX 12-1

TABLE A12-1-12
HYPOTHETICAL JADE MINE
(500 tons/year potential)

Year	Production	Disturbance	Reclaimed	Total Disturbance	Total Reclaimed	Total Remaining Disturbance
1994	200	3	-	3	0	3
1995	500	1	-	4	0	4
1996	500	1	-	5	0	5
1997	500	-	-	5	0	6
1998	500	-	1	5	1	5
1999	500	1	-	6	0	5
2000	500	-	-	6	0	5
2001	200	1	1	6	2	4
2002	100	4	4	6	6	0

TABLE A12-1-13
HYPOTHETICAL GOLD MINE
(0.100z/ton)
(320,000-ton mine; 11-year life)

Year	Production (000)	Disturbance	Reclaimed	Total Disturbance	Total Reclaimed	Total Remaining Disturbance
1996	150	10	-	10	-	10
1997	200	4	-	14	-	14
1998	275	4	2	18	2	16
1999	320	6	4	24	6	18
2000	320	5	2	29	8	21
2001	320	5	5	34	13	21
2002	320	8	6	42	19	23
2003	320	4	7	46	26	20
2004	320	2	7	48	33	15
2005	250	4	10	52	43	9
2006	175	1	5	53	48	5
2007	0	-	5	53	53	0

TABLE A12-1-14
PROJECTED LAND USE AUTHORIZATIONS AND ACREAGE
(by alternative)

Type of Surface Disturbance	Proposed Plan		Alternative A		Alternative B		Alternative C	
	Number of Authorizations	Acres	Number of Authorizations	Acres	Number of Authorizations	Acres	Number of Authorizations	Acres
Permits	60	120	60	120	100	200	40	80
Oil and Gas	140	250	140	250	200	400	60	120
Total	200	370	200	370	300	600	100	200
Leases	2	20	2	20	4	40	1	10
Communication Sites	3	3	3	3	5	5	2	2
Telephone	180	720	180	720	200	800	150	600
Coal	10	1,200			10	1,200		
Total	190	1,920	180	720	210	2,000	150	600
Water Facilities	80	240	80	240	100	300	60	180
Coal	20	200			20	200		
Total	100	440	80	240	120	500	60	180
Other	100	800	100	800	120	960	80	640
Roads	7	280	7	280	10	400	5	200
Oil and Gas ¹	320	9,500	320	9,500	400	12,000	250	7,500
Coal	4	1,090			4	1,090		
Total	331	10,870	327	9,780	414	13,490	255	7,700
Pipelines	7	56	7	56	10	80	5	45
Oil and Gas ¹	720	5,760	720	5,760	800	6,400	680	5,440
Total	727	5,816	727	5,816	810	6,480	685	5,485
Totals of Surface Disturbance	1,653	20,293	1,619	17,749	1,983	24,075	1,333	14,817

¹ These are ROWs issued and do not include roads/pipelines authorized through the APD process. The acreage for roads associated with oil and gas wells also is shown under the Oil and Gas Assumptions. Approximately 20 ROWs (1,000 acres) are granted for non-oil and gas related access.

APPENDIX 12-1

TABLE A12-1-15
ESTIMATED YEARLY COAL PRODUCTION BY TRACT AREA
(million tons)

Proposed Plan and Alternative A

Year	Beans Spring	Black Butte/ Pit 22	Bridger	Cooper Ridge	Deadman Wash	Lion Coal	Pilot Butte	Total Production
1990 ¹	0	5.8	5.8	0	0	0.11	0.19	11.9
1991	0	5.8	6.0	0	0	0.11	0.2	12.11
1992	0	5.8	6.0	0	0	0.10	0.5	12.4
1993	0	5.6	6.0	0	0	0.06	0.7	12.36
1994	0	5.8	5.9	0	0	0.05	3.9	15.65
1995	0	6.0	5.8	0	0.5	0.05	3.9	16.25
1996	0	6.0	5.9	0	0.8	0.05	4.0	16.75
1997	0	6.0	5.9	0	1.7	0.04	4.0	17.64
1998	0	5.8	6.0	0	2.0	0.03	4.2	18.03
1999	0	5.8	6.0	0	2.0	0.03	4.0	17.83
2000	0	5.7	6.0	0	2.0	0.02	3.9	17.62
2001	0	5.8	6.0	0	2.5	0.01	3.9	18.21
2002	0	6.0	5.8	0	2.5	0	3.9	18.20
2003	0	6.0	5.8	0	2.0	0	4.0	17.8
2004	0	5.9	5.8	0	2.0	0	4.0	17.7
2005	0.8	5.8	5.6	0	2.0	0	4.2	18.4
2006	1.0	5.8	5.5	0.6	1.0	0	4.0	17.3
2007	1.0	5.7	5.5	0.9	0	0	4.0	16.2
2008	1.0	5.6	5.3	1.7	0	0	4.2	16.1
2009	1.5	5.6	5.1	2.5	0	0	3.3	15.5
2010	1.5	5.5	5.1	3.0	0	0	0.7	12.8

¹ Actual production, base year

TABLE A12-1-16
PROJECTED DRILLING ACTIVITY (1990 - 2010) AND ASSOCIATED SURFACE DISTURBANCE
Green River Resource Area
Proposed Plan

A. Most Probable Future Projection ¹	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
1. Wells Drilled	70	138	207	273	339	404	469	532	594	656	717	778	838	897	956	1014	1072	1129	1185	1241	1300
2. Expected Producers ²	44	87	130	172	214	254	295	335	374	413	452	490	528	565	602	639	675	711	747	782	819
3. Expected D&A	26	51	77	101	126	150	174	197	220	243	265	288	310	332	354	375	397	418	438	459	481
4. Abandoned Producers ³	12	28	49	89	109	157	186	241	303	362	440	486	547	623	660	682	697	738	780	818	961 ⁶
5. Total Producers (1,712 as of 12/89)	1744	1771	1793	1795	1817	1811	1823	1808	1785	1765	1725	1718	1694	1656	1656	1670	1692	1687	1680	1677	1571
6. Acres of Surface Disturbance	10435	11203	11979	12726	13473	14200	14934	15646	16345	17044	17736	18421	19099	19764	20428	21085	21736	22380	23016	23646	24310
7. Acres Stabilized ⁴	488	1069	1456	2085	2718	3384	4122	4758	5526	6199	6987	7801	8600	9486	10212	11005	11864	12529	13111	13657	14325
8. Net Long-Term Disturbance ⁵	9947	10134	10523	10641	10755	10816	10812	10888	10819	10845	10749	10620	10499	10278	10216	10080	9872	9851	9905	9989	9985

¹ Cumulative Totals² Success Ratio = 0.63³ Gas Well Productive Life = 20 Years; Oil Well Productive Life = 50 Years⁴ Assume 3-Year Stabilization⁵ Row 8 = Row 6 - Row 7⁶ The total number of gas wells drilled in 1990 not available

TABLE A12-1-17
PROJECTED DRILLING ACTIVITY (1990 - 2010) AND ASSOCIATED SURFACE DISTURBANCE
Little Colorado Desert
(All Alternatives)

A. Most Probable Future Projection ¹	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
<i>Proposed Plan</i>																					
<i>Alternative A</i>																					
<i>Alternative C</i>																					
1. Wells Drilled	12	24	36	49	61	73	85	97	109	122	134	146	158	170	182	194	207	219	231	243	255
2. Expected Producers ²	8	15	23	31	38	46	54	61	69	77	84	92	100	107	115	122	130	138	146	153	161
3. Expected D&A	4	9	13	18	23	27	31	36	40	45	50	54	58	63	67	72	77	81	85	90	94
4. Abandoned Producers ³	7	14	21	28	38	53	60	83	96	110	140	155	193	250	266	279	286	305	328	347	371
5. Total Producers (349 as of 12/89)	350	350	351	352	349	342	343	327	322	316	293	286	256	206	198	192	193	182	167	155	139
6. Acres of Surface Disturbance	2439	2571	2709	2855	2987	3125	3263	3395	3533	3678	3810	3948	4086	4218	4356	4488	4634	4772	4910	5042	5180
7. Acres Stabilized ⁴	169	380	588	721	853	986	1127	1274	1447	1580	1792	1955	2130	2377	2550	2838	3220	3398	3560	3701	3894
8. Net Long-Term Disturbance ⁵	2270	2191	2121	2134	2134	2139	2136	2121	2086	2098	2018	1993	1956	1841	1806	1650	1414	1374	1350	1341	1286
B. Maximum Future Projection ¹	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
<i>Alternative B</i>																					
1. Wells Drilled	26	52	79	105	132	158	185	211	238	264	289	314	339	363	387	409	431	453	473	492	510
2. Expected Producers ²	16	33	50	66	83	100	117	133	150	166	182	198	214	229	244	258	272	285	298	310	321
3. Expected D&A	10	19	29	39	49	58	68	78	88	98	107	116	125	134	143	151	159	168	175	182	189
4. Abandoned Producers ³	7	14	21	28	38	53	60	83	96	110	140	155	193	250	266	279	286	305	328	347	371
5. Total Producers (349 as of 12/89)	358	368	378	387	394	396	406	399	403	405	391	392	370	328	327	328	335	329	319	312	299
6. Acres of Surface Disturbance	2592	2889	3194	3485	3789	4086	4391	4682	4986	5277	5561	5844	6128	6398	6668	6917	7166	7409	7651	7865	8066
7. Acres Stabilized ⁴	169	380	588	834	1081	1336	1582	1851	2138	2393	2719	3003	3284	3638	3916	4310	4790	5065	5309	5523	5796
8. Net Long-Term Disturbance ⁵	2423	2509	2606	2651	2708	2750	2809	2831	2848	2884	2842	2841	2844	2760	2752	2607	2376	2344	2342	2342	2270

¹ Cumulative Totals² Success Ratio = 0.63³ Gas Well Productive Life = 20 Years; Oil Well Productive Life = 50 Years⁴ Assume 3-Year Stabilization⁵ Row 8 = Row 6 - Row 7

Table A12-1-18
PROJECTED DRILLING ACTIVITY (1990 - 2010) AND ASSOCIATED SURFACE DISTURBANCE
Greater Nitchie Gulch
(Proposed Plan and Alternative C)

Most Probable Future Projection ¹	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
1. Wells Drilled	3	5	8	9	11	13	15	16	18	19	21	22	23	25	26	28	30	31	33	35	36
2. Expected Producers ²	2	3	5	6	7	8	9	10	11	12	13	14	14	16	16	18	19	20	21	22	23
3. Expected D&A	1	2	3	3	4	5	6	6	7	7	8	8	9	9	10	10	11	11	12	13	13
4. Abandoned Producers ³	2	8	15	17	19	20	21	23	24	25	27	28	30	33	34	36	38	48	58	72	76
5. Total Producers (72 as of 12/89)	72	67	62	61	60	60	60	59	59	59	58	58	56	55	54	54	53	44	35	22	19
6. Acres of Surface Disturbance	694	715	749	763	784	805	826	839	860	874	895	908	916	943	950	977	998	1012	1033	1054	1067
7. Acres Stabilized ⁴	85	193	319	354	400	459	478	504	525	546	564	588	599	625	638	656	688	700	727	753	812
8. Net Long-Term Disturbance ⁵	609	522	430	409	384	346	348	335	335	328	331	320	317	318	312	321	310	312	306	301	255

¹ Cumulative Totals² Success Ratio = 0.63³ Gas Well Productive Life = 20 Years; Oil Well Productive Life = 50 Years⁴ Assume 3-Year Stabilization⁵ Row 8 = Row 6 - Row 7

TABLE A12-1-19

PROJECTED DRILLING ACTIVITY (1990 - 2010) AND ASSOCIATED SURFACE DISTURBANCE
Wamsutter Arch
(All Alternatives)

A. Most Probable Future Projection ¹	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
<i>Proposed Plan</i>																					
<i>Alternative A</i>																					
<i>Alternative C</i>																					
1. Wells Drilled	8	15	21	28	33	39	44	49	54	58	62	66	70	73	77	80	83	86	88	91	94
2. Expected Producers ²	5	9	13	18	21	25	28	31	34	37	39	42	44	46	49	50	52	54	55	57	59
3. Expected D&A	3	6	8	10	12	14	16	18	20	21	23	24	26	27	28	30	31	32	33	34	35
4. Abandoned Producers ³	15	30	45	50	53	58	62	69	79	84	86	89	94	95	95	95	95	97	102	114	218
5. Total Producers (375 as of 12/89)	365	354	343	343	343	342	341	337	340	328	328	328	325	326	329	330	332	332	328	318	216
6. Acres of Surface Disturbance	2087	2164	2341	2450	2533	2629	2711	2794	2876	2938	3007	3068	3137	3186	3247	3302	3351	3398	3419	3454	3488
7. Acres Stabilized ⁴	58	149	162	302	434	558	640	696	770	830	906	996	1054	1096	1144	1201	1231	1264	1287	1312	1346
8. Net Long-Term Disturbance ⁵	2029	2015	2179	2148	2099	2071	2071	2098	2106	2108	2101	2072	2083	2090	2103	2101	2120	2134	2132	2142	2142
B. Maximum Future Projection¹																					
<i>Alternative B</i>																					
1. Wells Drilled	4	9	13	19	24	31	38	46	54	64	75	86	99	113	129	145	164	183	205	228	253
2. Expected Producers ²	3	6	8	12	15	20	24	29	34	40	47	54	62	71	81	91	103	115	129	144	159
3. Expected D&A	1	3	5	7	9	11	14	17	20	24	28	32	37	42	48	54	61	68	76	84	94
4. Abandoned Producers ³	15	30	45	50	53	58	62	69	79	84	86	89	94	95	95	95	95	97	102	114	218
5. Total Producers (375 as of 12/89)	363	351	338	337	337	337	337	335	330	331	336	340	343	351	361	371	383	393	402	405	316
6. Acres of Surface Disturbance	2045	2101	2143	2212	2267	2350	2426	2516	2606	2717	2842	2966	3112	3271	3451	3631	3845	4060	4309	4572	4849
7. Acres Stabilized ⁴	58	149	162	302	434	558	640	696	770	830	906	996	1054	1096	1144	1201	1231	1264	1287	1312	1346
8. Net Long-Term Disturbance ⁵	1987	1952	1981	1910	1833	1792	1786	1820	1836	1887	1936	1970	2058	2175	2307	2430	2614	2796	3022	3260	3503

¹ Cumulative Totals² Success Ratio = 0.63³ Gas Well Productive Life = 20 Years; Oil Well Productive Life = 50 Years⁴ Assume 3-Year Stabilization⁵ Row 8 = Row 6 - Row 7

APPENDIX 12-1

TABLE A12-1-20

**COALBED METHANE PROJECTED DRILLING ACTIVITY (1990 - 2000) AND
ASSOCIATED SURFACE DISTURBANCE
Green River Resource Area
(Proposed Plan and Alternative C)**

Most Probable Future Projection¹	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
1. Wells Drilled	11	11	45	95	145	195	230	235	240	245	250
2. Expected Producers ²	9	9	36	76	116	156	184	188	192	196	200
3. Expected D&A	2	2	9	19	29	39	46	47	48	49	50
4. First Production ³	0	0	9	9	36	76	116	156	184	188	192
5. Acres of Surface Disturbance	140	140	567	1,197	1,827	2,457	2,898	2,961	3,024	3,087	3,150
6. Acres Stabilized ⁴				90	90	369	779	1,189	1,599	1,886	1,927
7. Net Long-Term Disturbance ⁵	140	140	567	1,107	1,737	2,088	2,119	1,772	1,425	1,201	1,223

¹ Cumulative Totals

² Success Ratio = 0.80

³ 2 Years Between Completion and First Production

⁴ Assume 3-Year Stabilization

⁵ Row 7 = Row 5 - Row 6

TABLE A12-1-21

**HYPOTHETICAL ZEOLITE MINE
(100,000 tons/year potential)
(4-inch seam multiple seam potential)**

Year	Production (000)	Disturbance	Reclaimed	Total Disturbance	Total Reclaimed	Total Remaining Disturbance
2000	-	20	-	20	-	20
2001	25,000	30	-	50	-	50
2002	50,000	20	10	70	10	60
2003	75,000	15	5	85	15	70
2004	100,000	20	10	105	25	80
2005	100,000	10	10	115	35	80
2006	100,000	15	10	130	45	85
2007	100,000	5	5	135	70	65
2008	100,000	20	15	155	85	70
2009	100,000	30	40	185	125	60
2010	100,000	20	40	205	165	40
2011	-	-	40	205	205	0

TABLE A12-1-22
PROJECTED DRILLING ACTIVITY (1990 - 2010) AND ASSOCIATED SURFACE DISTURBANCE
Green River Resource Area
(Alternatives A and B)

A. Most Probable Future Projection¹	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
<i>Alternative A</i>																					
1. Wells Drilled	70	138	207	274	341	407	473	538	602	666	729	792	854	915	976	1,036	1,096	1,155	1,213	1,271	1,328
2. Expected Producers ²	44	87	130	173	215	256	298	339	379	420	459	499	538	576	615	653	690	728	764	801	837
3. Expected D&A	26	51	77	101	126	151	175	199	223	246	270	293	316	339	361	383	406	427	449	470	491
4. Abandoned Producers ³	12	28	49	89	109	157	186	241	303	362	440	486	547	623	660	682	697	738	780	818	961 ⁶
5. Total Producers (1,712 as of 12/89)	1,744	1,771	1,793	1,796	1,818	1,811	1,824	1,810	1,788	1,770	1,731	1,725	1,703	1,665	1,667	1,665	1,705	1,702	1,696	1,695	1,588
6. Acres of Surface Disturbance	10435	11203	11979	12739	13493	14235	14982	15715	16435	17161	17868	18580	19279	19965	20656	21319	22006	22677	23328	23985	24629
7. Acres Stabilized ⁴	488	1069	1456	2085	2718	3384	4129	4774	5550	6232	7035	7865	8681	9583	10325	11134	12010	12692	13004	13851	14537
8. Net Long-Term Disturbance ⁵	9947	10134	10523	10654	10775	10851	10853	10941	10885	10929	10833	10715	10598	10382	10331	10185	9996	9985	10324	10134	10092
B. Maximum Future Projection¹																					
<i>Alternative B</i>																					
1. Wells Drilled	103	208	315	423	532	643	756	869	985	1102	1220	1340	1461	1584	1708	1834	1961	2090	2220	2352	2485
2. Expected Producers ²	65	131	198	266	335	405	476	547	621	694	769	844	920	998	1076	1155	1235	1317	1399	1482	1565
3. Expected D&A	38	77	117	157	197	238	280	322	364	408	451	496	541	586	632	679	726	773	821	870	920
4. Abandoned Producers ³	12	28	49	89	109	157	186	241	303	362	440	486	547	623	660	682	697	738	780	818	961 ⁶
5. Total Producers (1,712 as of 12/89)	1765	1815	1861	1889	1938	1960	2002	2018	2030	2044	2041	2070	2085	2087	2128	2185	2250	2291	2331	2376	2316
6. Acres of Surface Disturbance	10809	11992	13197	14415	15646	16899	18172	19446	20760	22075	23410	24760	26124	27514	28912	30331	31764	33223	34690	36178	37674
7. Acres Stabilized ⁴	488	1069	1456	2354	3287	4262	5340	6326	7469	8532	9726	10980	12225	13575	14780	16069	17449	18642	19776	20884	22139
8. Net Long-Term Disturbance ⁵	10321	10923	11741	12061	12359	12637	12832	13120	13291	13543	13684	13780	13899	13939	14132	14262	14315	14581	14914	15294	15535

¹ Cumulative Totals² Success Ratio = 0.63³ Gas Well Productive Life = 20 Years; Oil Well Productive Life = 50 Years⁴ Assume 3-Year Stabilization⁵ Row 8 = Row 6 - Row 7⁶ The total number of gas wells drilled in 1990 not available

TABLE A12-1-23
PROJECTED DRILLING ACTIVITY (1990 - 2010) AND ASSOCIATED SURFACE DISTURBANCE
Greater Nitchie Gulch
(Alternatives A and B)

A. Most Probable Future Projection ¹	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
<i>Alternative A</i>																					
1. Wells Drilled	3	5	8	10	12	15	17	19	21	23	25	27	29	31	32	34	36	37	39	41	42
2. Expected Producers ²	2	3	5	6	8	9	11	12	13	14	16	17	18	20	20	21	23	23	25	26	26
3. Expected D&A	1	2	3	4	4	6	6	7	8	9	9	10	11	11	12	13	13	14	14	15	16
4. Abandoned Producers ³	2	8	15	17	19	20	21	23	24	25	27	28	30	33	34	36	38	48	58	72	76
5. Total Producers (72 as of 12/89)	72	67	62	61	61	61	62	61	61	61	61	61	60	59	58	57	57	49	39	26	22
6. Acres of Surface Disturbance	694	715	749	770	797	826	853	874	895	916	943	964	985	1,012	1,019	1,040	1,067	1,075	1,102	1,123	1,131
7. Acres Stabilized ⁴	85	193	319	354	400	459	485	512	541	563	589	610	631	658	679	705	737	749	775	802	860
8. Net Long-Term Disturbance ⁵	609	522	430	416	397	367	368	362	354	353	354	354	354	354	340	335	330	326	327	321	271
B. Maximum Future Projection¹																					
<i>Alternative B</i>																					
1. Wells Drilled	4	8	12	16	20	24	28	32	36	40	44	48	52	56	60	64	68	72	76	80	84
2. Expected Producers ²	3	5	8	10	13	15	18	20	23	25	28	30	33	35	38	40	43	45	48	50	53
3. Expected D&A	1	3	4	6	7	9	10	12	13	15	16	18	19	21	22	24	25	27	28	30	31
4. Abandoned Producers ³	2	8	15	17	19	20	21	23	24	25	27	28	30	33	34	36	38	48	58	72	76
5. Total Producers (72 as of 12/89)	73	69	65	65	66	67	69	69	71	72	73	74	75	74	76	76	77	69	62	50	49
6. Acres of Surface Disturbance	707	749	797	839	887	929	977	1,019	1,067	1,109	1,157	1,199	1,247	1,289	1,337	1,379	1,427	1,469	1,477	1,519	1,567
7. Acres Stabilized ⁴	85	193	319	362	424	492	533	577	614	652	694	732	769	812	849	892	939	977	1,019	1,062	1,144
8. Net Long-Term Disturbance ⁵	622	556	478	477	463	437	444	442	453	457	463	467	478	477	488	487	488	492	458	457	423

¹ Cumulative Totals² Success Ratio = 0.63³ Gas Well Productive Life = 20 Years; Oil Well Productive Life = 50 Years⁴ Assume 3-Year Stabilization⁵ Row 8 = Row 6 - Row 7

APPENDIX 12-1

TABLE A12-1-24

**COALBED METHANE PROJECTED DRILLING ACTIVITY (1990-2000)
AND ASSOCIATED SURFACE DISTURBANCE
Green River Resource Area
(Alternatives A and B)**

A. Minimum Future Projection¹	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
1. Wells	11	21	31	37	37	37	37	37	37	37	37
2. Expected Producers ²	2	3	5	6	6	6	6	6	6	6	6
3. Expected D&A	9	18	26	31	31	31	31	31	31	31	31
4. First Production ³	0	0	2	3	5	6	6	6	6	6	6
5. Acres of Surface Disturbance	98	182	272	325	325	325	325	325	325	325	325
6. Acres Stabilized ⁴	0	0	0	87	165	244	292	292	292	292	292
7. Net Long-Term Disturbance ⁵	98	182	272	238	160	81	33	33	33	33	33
B. Most Probable Future Projection¹	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
1. Wells Drilled	11	46	116	216	266	272	278	284	290	295	300
2. Expected Producers ⁶	9	37	93	173	213	218	222	227	232	236	240
3. Expected D&A	2	9	23	43	53	54	56	57	58	59	60
4. First Production ³	0	0	9	37	93	173	213	218	222	227	232
5. Acres of Surface Disturbance	140	581	1463	2723	3353	3430	3500	3577	3646	3717	3780
6. Acres Stabilized ⁴	0	0	0	90	377	951	1771	2181	2231	2279	2329
7. Net Long-Term Disturbance ⁵	140	581	1463	2633	2976	2479	1729	1396	1415	1438	1451

¹ Cumulative Totals

² Success Ratio = 0.15

³ 2 Years Between Completion and First Production

⁴ Assume 3-Year Stabilization

⁵ Row 7 = Row 5 - Row 6

⁶ Success Ratio = 0.80

TABLE A12-1-25

**ESTIMATED YEARLY COAL PRODUCTION BY TRACT AREA
Alternative B
(million tons)**

Year	Beans Spring	Black Butte/ Pit 22	Bridger	Deadman Wash	Deer Butte	Lion Coal	Pilot Butte	Total Production
1990 ¹	0	5.8	5.8	0	0	0.11	0.19	11.90
1991	0	5.8	6.0	0	0	0.11	0.2	12.11
1992	0	5.8	6.0	0	0	0.10	0.5	12.4
1993	0	5.6	6.0	0	0	0.06	0.7	12.36
1994	0	5.8	5.9	0	0	0.05	3.9	15.65
1995	0	6.0	5.8	0.5	0	0.05	3.9	16.25
1996	0	6.0	5.9	0.8	0	0.05	4.0	16.75
1997	0	6.0	5.9	1.7	0	0.04	4.0	17.64
1998	0	5.8	6.0	2.0	0	0.03	4.2	18.03
1999	0	5.8	6.0	2.0	0	0.03	4.0	17.83
2000	0	5.7	6.0	2.0	0	0.02	3.9	17.62
2001	0	5.8	6.0	2.5	0	0.01	3.9	18.21
2002	0	6.0	5.8	2.5	0	0	3.9	18.2
2003	0	6.0	5.8	2.0	0	0	4.0	17.8
2004	0	5.9	5.8	2.0	0	0	4.0	17.7
2005	0.8	5.8	5.6	2.0	0	0	4.2	18.4
2006	1.2	5.8	5.5	1.0	0	0	4.0	18.1
2007	1.7	5.7	5.5	0	0	0	4.0	17.8
2008	2.0	5.6	5.3	0	0.5	0	4.2	19.3
2009	2.5	5.6	5.1	0	1.0	0	3.3	20.0
2010	2.5	5.5	5.1	0	1.5	0	0.7	18.3

¹ Actual production, base year

APPENDIX 12-1

TABLE A12-1-26

ESTIMATED YEARLY COAL PRODUCTION BY TRACT AREA
Alternative C
(million tons)

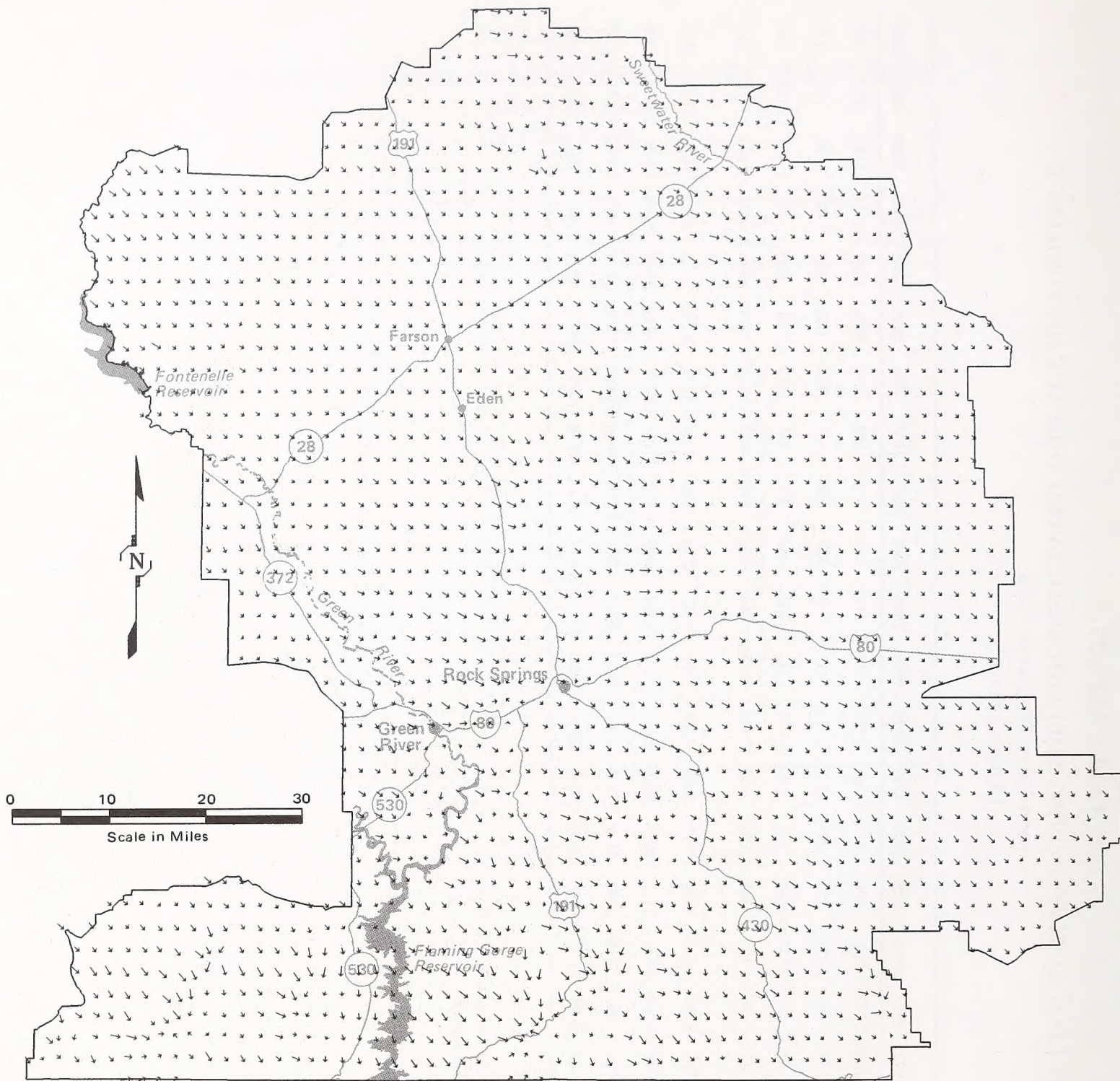
Year	Black Butte/ Pit 22	Bridger	Lion Coal	Pilot Butte	Total Production
1990 ¹	5.8	5.8	0.11	0.19	11.90
1991	5.8	6.0	0.11	0.2	12.11
1992	5.8	6.0	0.10	0.5	12.4
1993	5.6	6.0	0.06	0.7	12.36
1994	5.8	5.9	0.05	3.9	15.65
1995	6.0	5.8	0.05	3.9	15.75
1996	6.0	5.9	0.05	4.0	15.95
1997	6.0	5.9	0.04	4.0	15.94
1998	5.8	6.0	0.03	4.2	16.03
1999	5.8	6.0	0.03	4.0	15.83
2000	5.7	6.0	0.02	3.9	15.62
2001	5.8	6.0	0.01	3.9	15.71
2002	6.0	5.8	0	3.9	15.7
2003	6.0	5.8	0	4.0	15.8
2004	5.9	5.8	0	4.0	15.7
2005	5.8	5.6	0	4.2	15.6
2006	5.8	5.5	0	4.0	15.3
2007	5.7	5.5	0	4.0	15.2
2008	5.6	5.3	0	4.2	15.1
2009	5.6	5.1	0	3.3	14.0
2010	5.5	5.1	0	0.7	11.3

¹ Actual production, base year

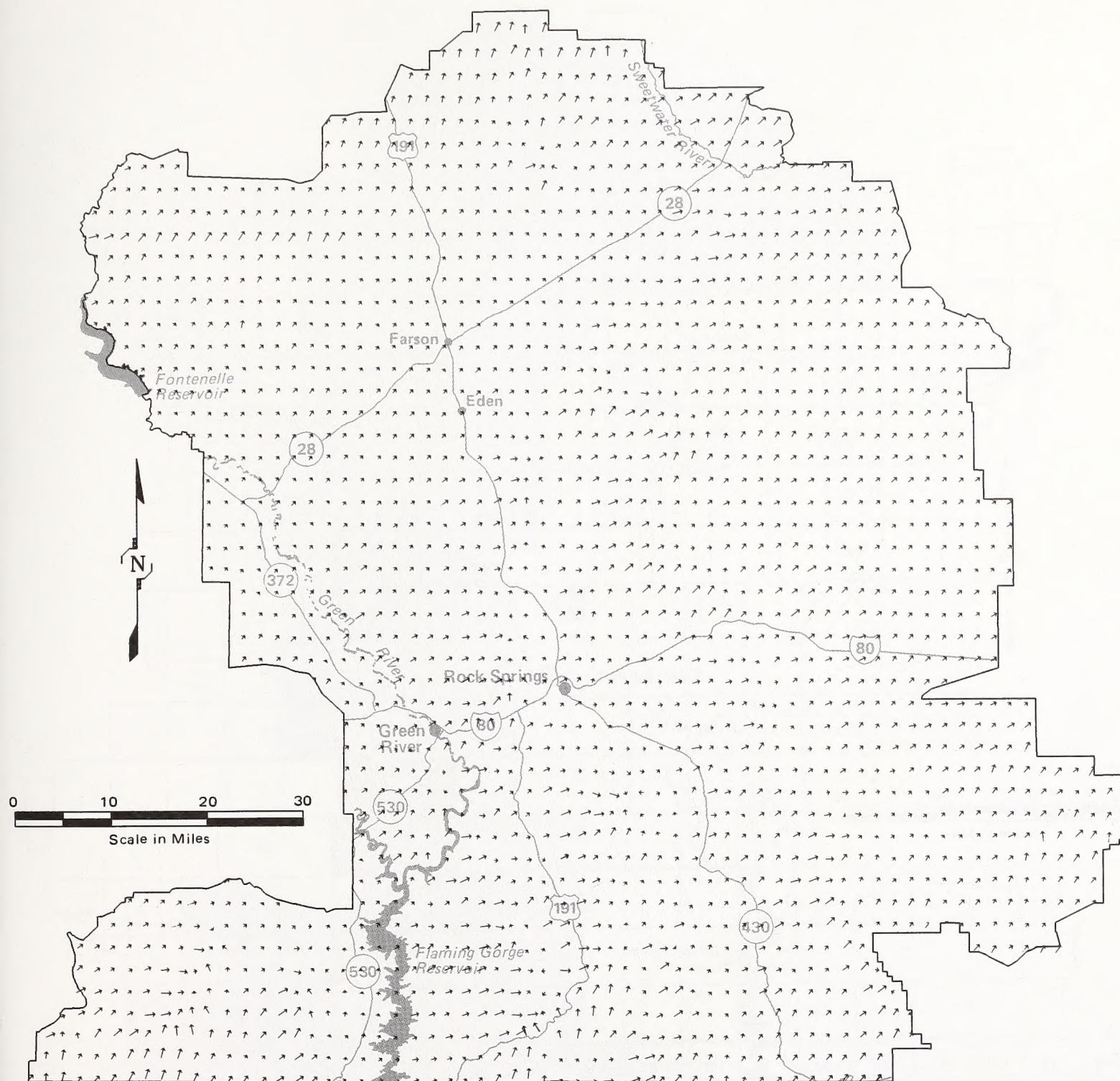
PROJECTED DRILLING ACTIVITY (1990 - 2010) AND ASSOCIATED SURFACE DISTURBANCE
Green River Resource Area
(Alternative C)

Most Probable Future Projection ¹	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
1. Wells Drilled	70	138	207	272	337	401	465	528	590	652	713	774	834	893	952	1010	1068	1125	1181	1237	1296
2. Expected Producers ²	44	87	130	171	212	253	293	333	372	411	449	488	525	563	600	636	673	709	744	779	816
3. Expected D&A	26	51	77	101	125	148	172	195	218	241	264	286	309	330	352	374	395	416	437	458	480
4. Abandoned Producers ³	12	28	49	89	109	157	186	241	303	362	440	486	547	623	660	682	697	738	780	818	961 ⁴
5. Total Producers (1,712 as of 12/89)	1744	1771	1793	1794	1815	1808	1819	1804	1781	1761	1721	1714	1690	1652	1652	1666	1688	1683	1676	1673	1567
6. Acres of Surface Disturbance	10435	11203	11979	12713	13446	14172	14892	15605	16304	17003	17688	18380	19052	19722	20387	21038	21695	22338	22968	23598	24263
7. Acres Stabilized ⁵	488	1069	1456	2085	2718	3384	4113	4741	5502	6167	6955	7769	8568	9453	10180	10972	11832	12497	13078	13625	14293
8. Net Long-Term Disturbance ⁶	9947	10134	10523	10628	10728	10788	10779	10864	10802	10836	10733	10611	10484	10269	10207	10066	9863	9841	9890	9973	9970

¹ Cumulative Totals² Success Ratio = 0.63³ Gas Well Productive Life = 20 Years; Oil Well Productive Life = 50 Years⁴ The total number of gas wells drilled in 1990 not available.⁵ Assume 3-Year Stabilization⁶ Row 8 = Row 6 - Row 7

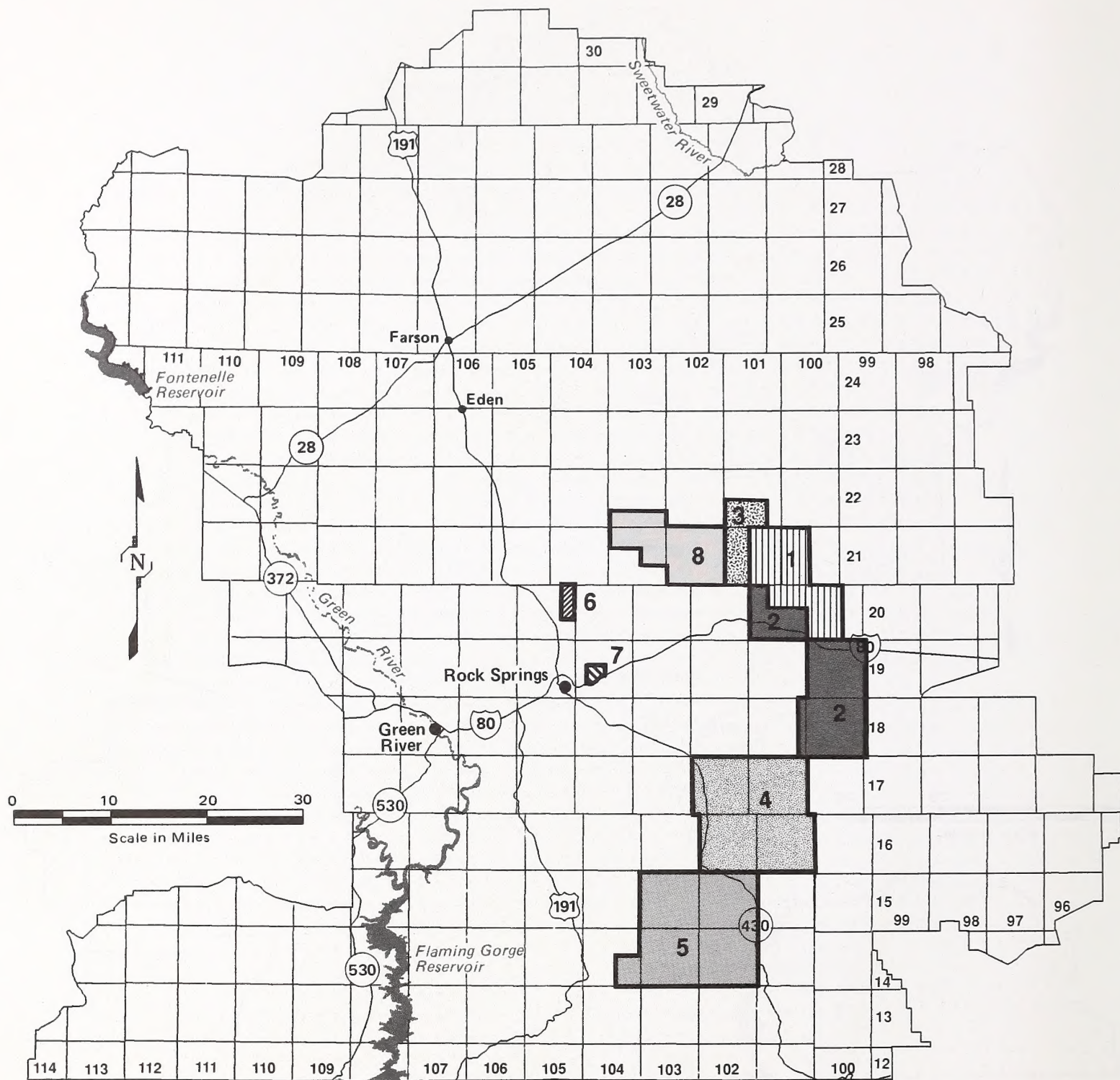










Map 85
**Vector Map Influencing Wind,
 NW at 2 m/s**
 Green River Planning Area



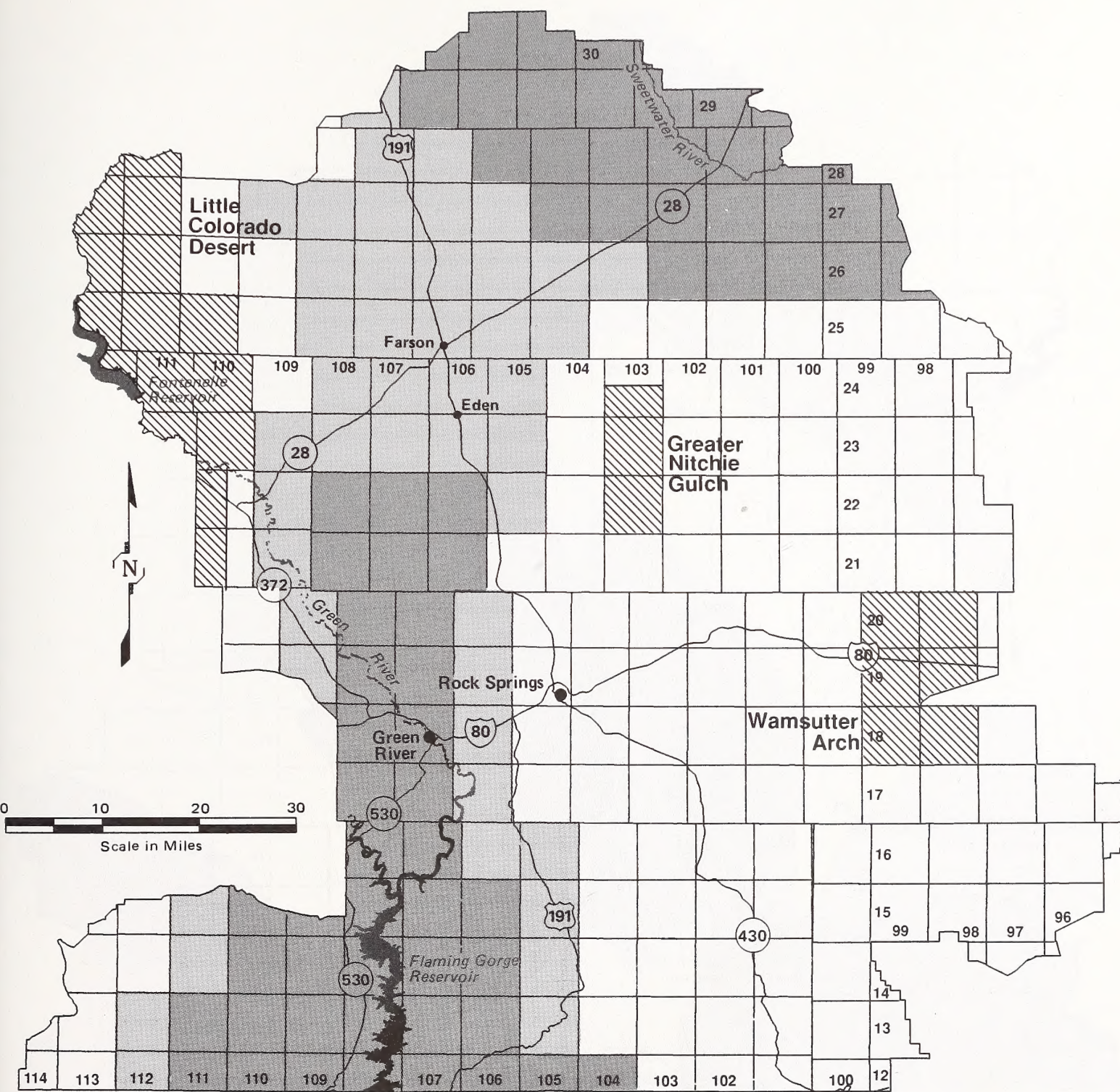
→ Maximum Vector (.608E+01)

Map 86
Vector Map Influencing Wind,
SW at 2 m/s
 Green River Planning Area



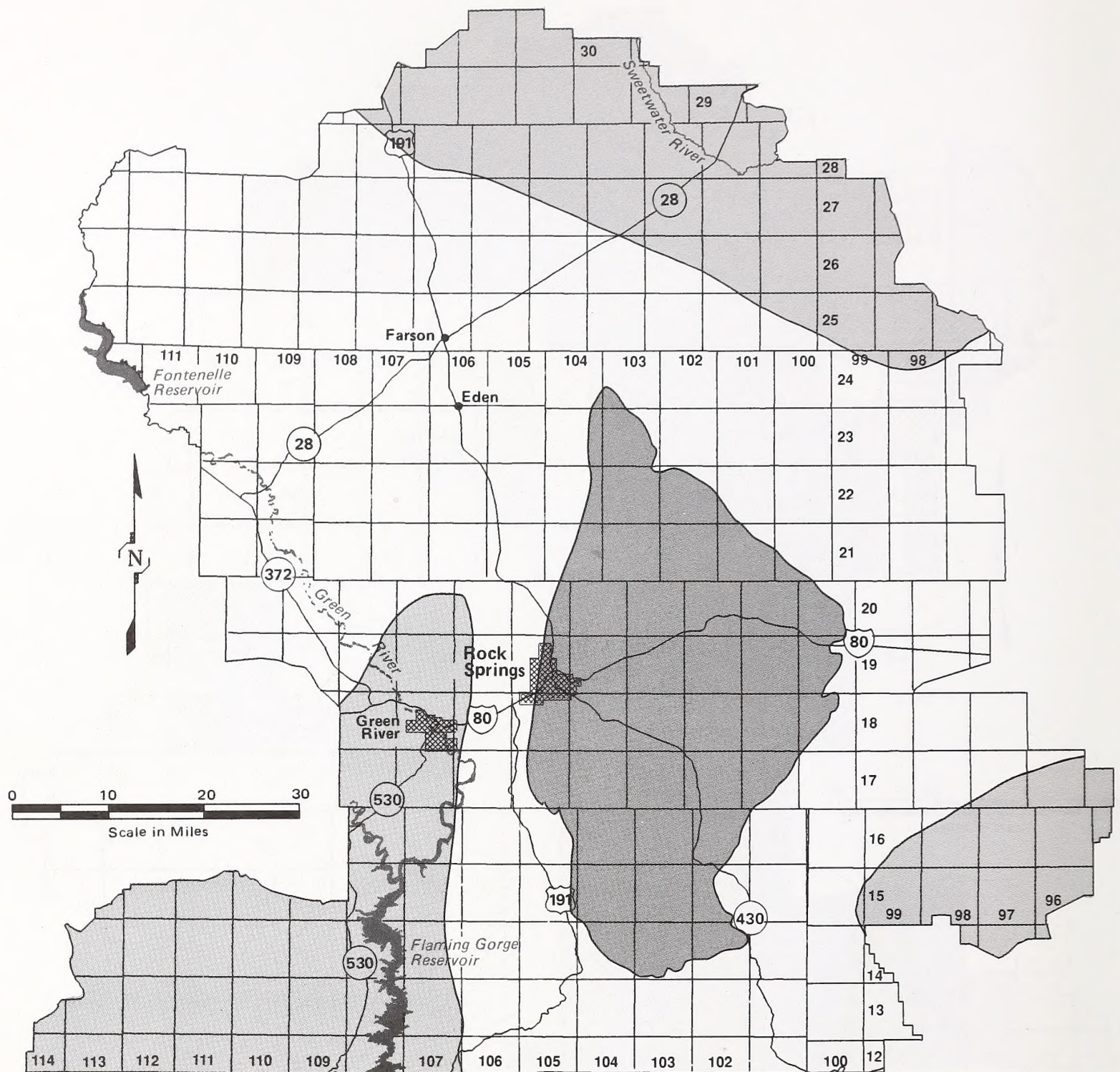
-  Bridger
-  Black Butte/Pit 22
-  Deadman
-  Cooper Ridge
-  Beans Springs/Pio (Elk Butte)
-  Pilot Butte
-  Lion Coal
-  Deer Butte

Map 87
Areas With Projected Coal Development
Green River Planning Area

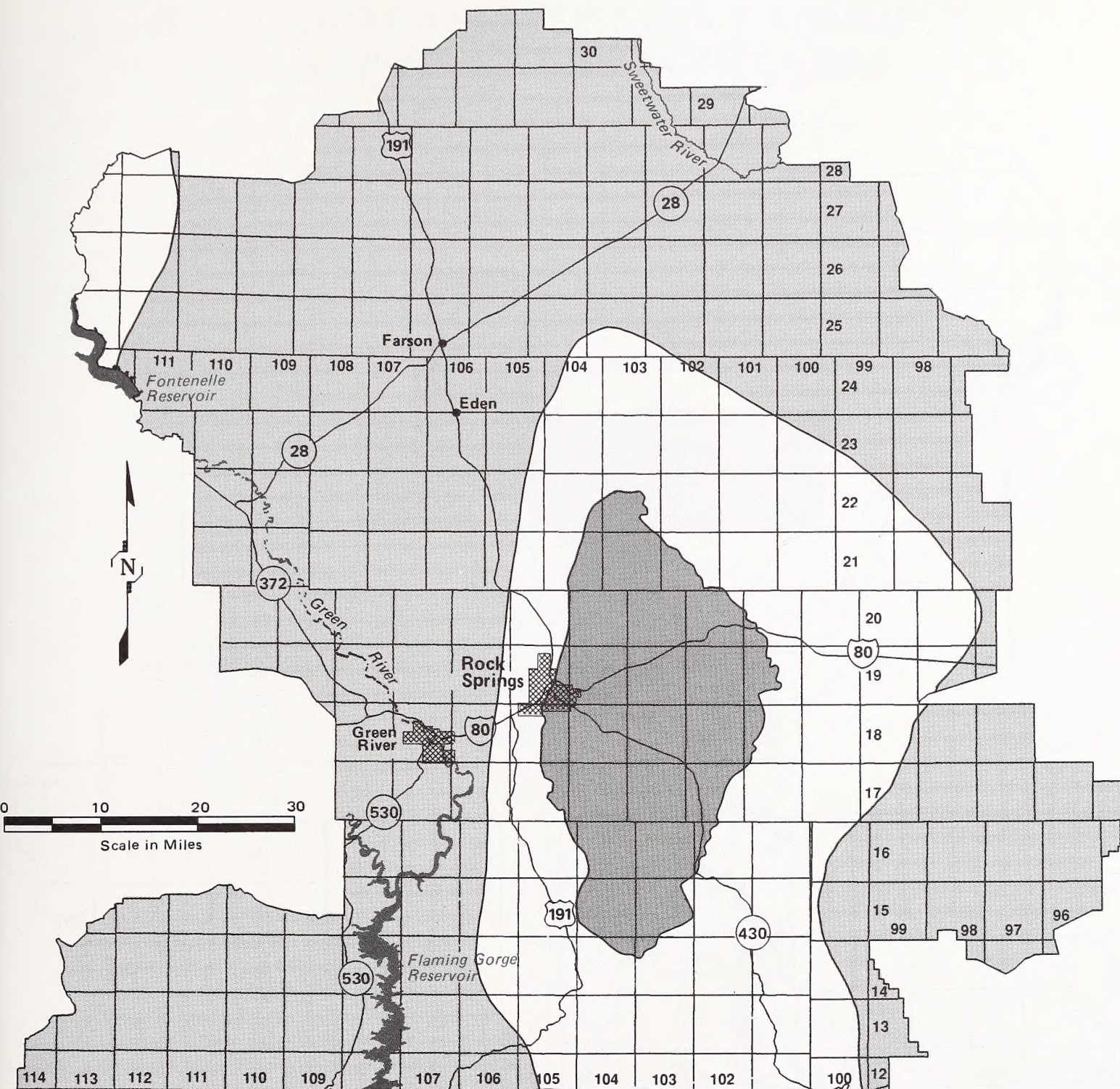


- High
- Moderate
- Low
- Area with anticipated high development activity or conflicts

Map 88
Oil and Gas Development Potential
Green River Planning Area

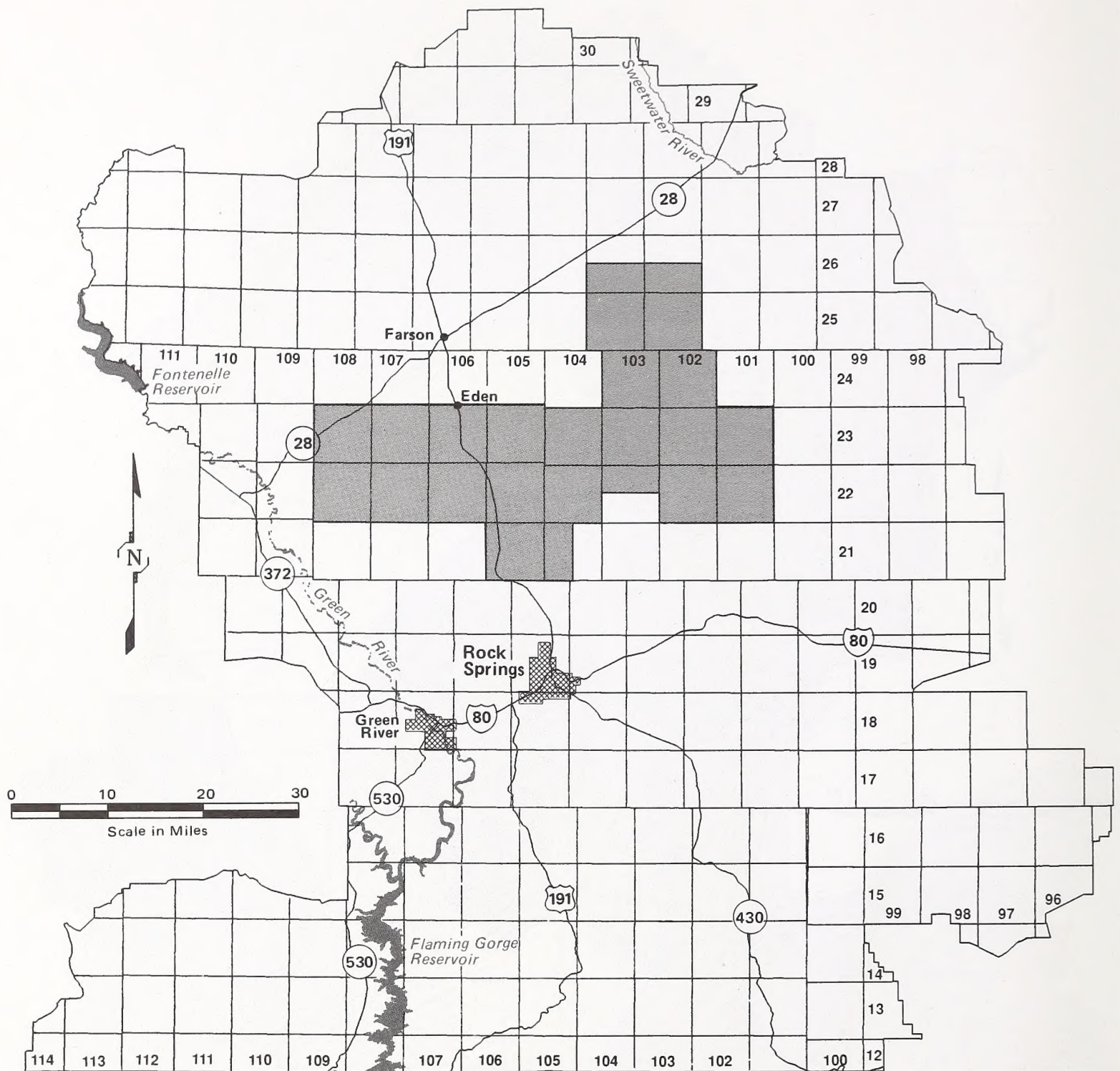


Map 89
**Potential for Occurrence of
 Tertiary Coalbed Methane**
 Green River Planning Area



- High Potential
- Moderate Potential
- No Potential

Map 90
Potential for Occurrence of
Upper Cretaceous Coalbed Methane
Green River Planning Area



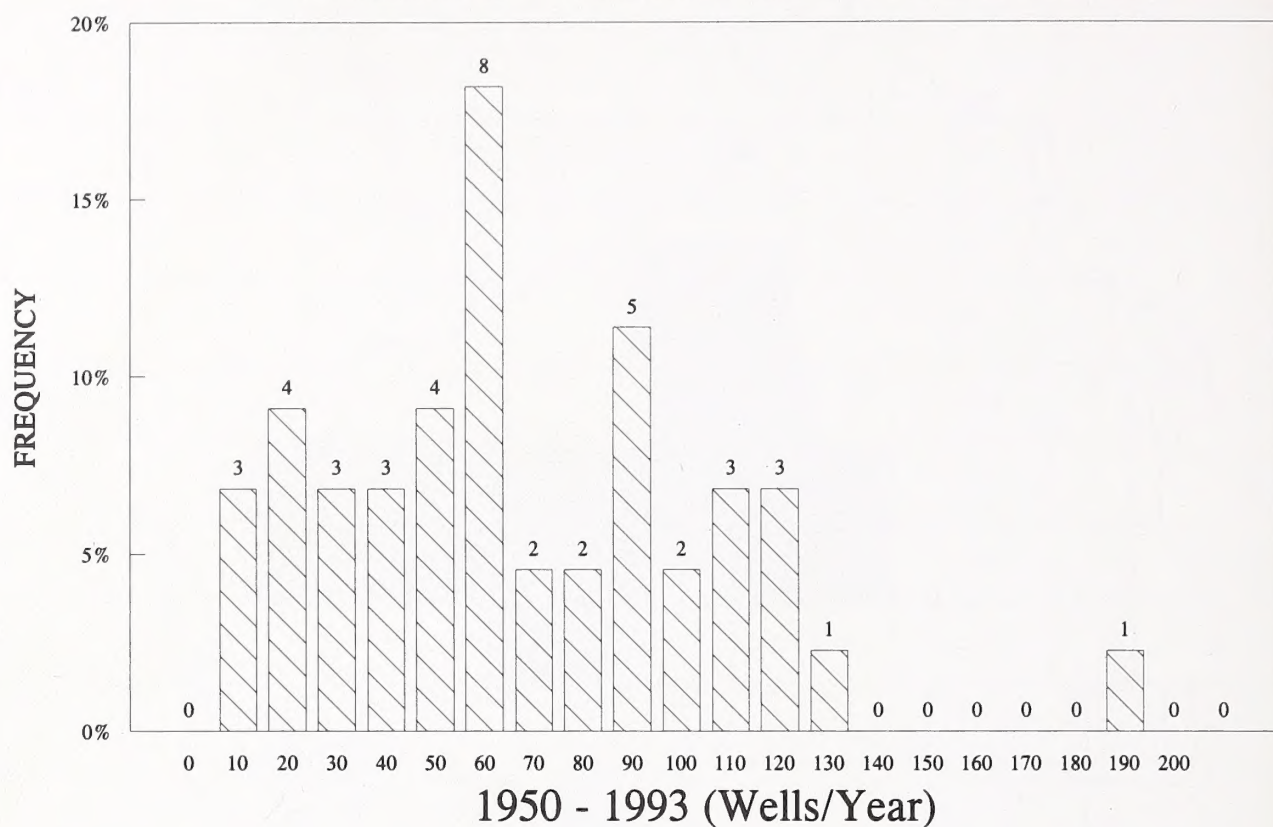
 Expected Activity Within 10 Years

Map 91
Coalbed Methane Development Potential
 Green River Planning Area

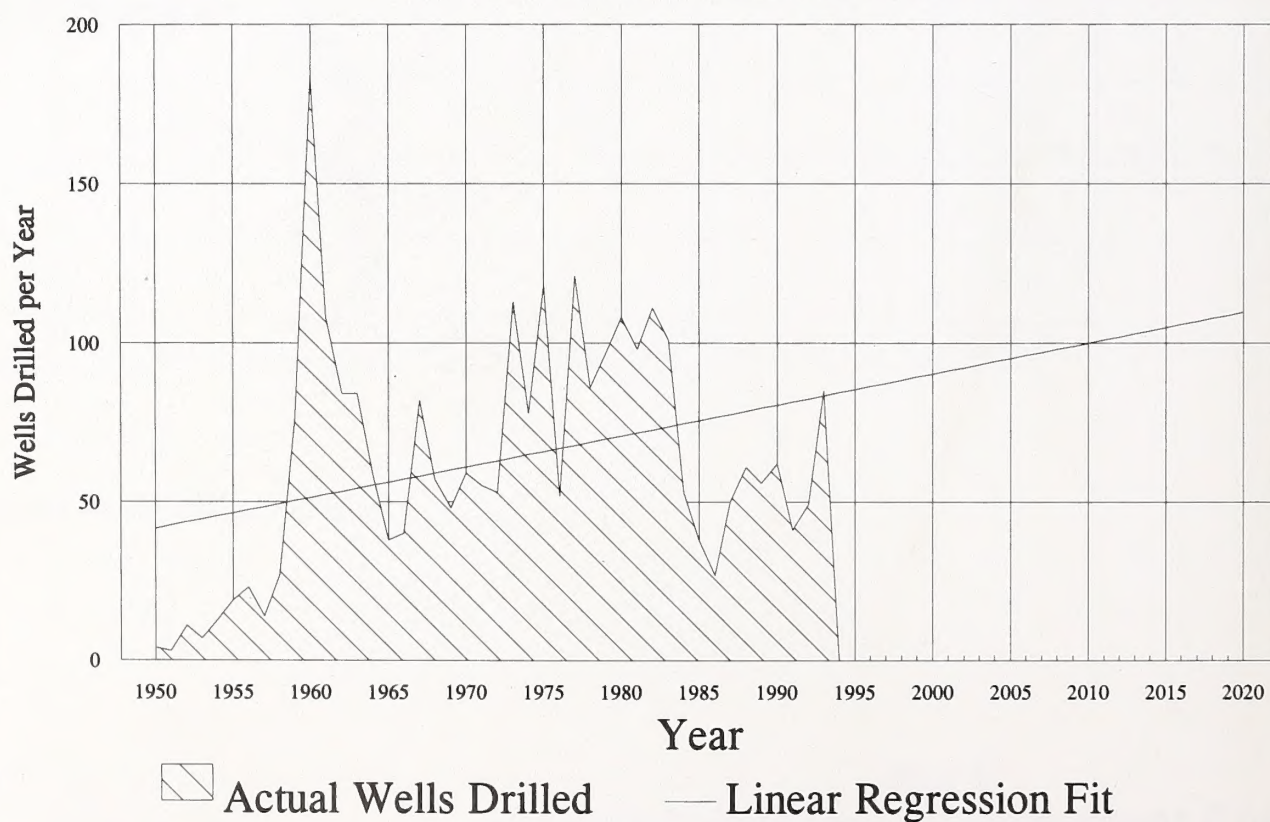
APPENDIX 12-2

STATISTICAL ANALYSIS USED TO PROJECT DRILLING ACTIVITY IN THE GRRA

GREEN RIVER RESOURCE AREA NUMBER OF WELLS DRILLED PER YEAR



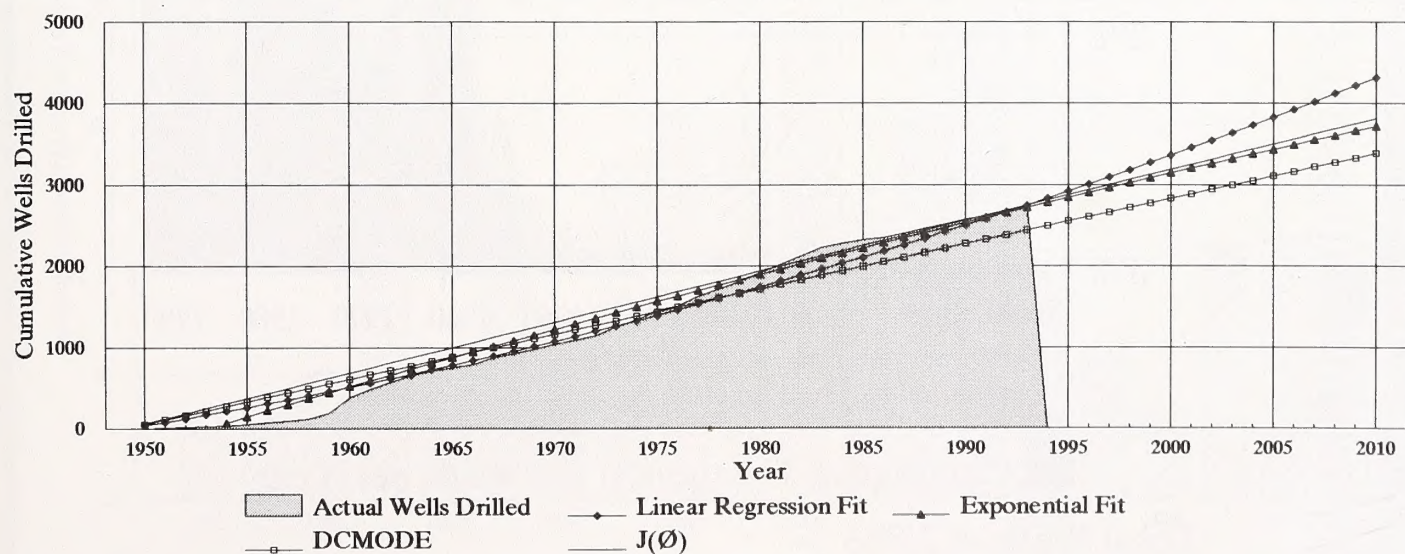
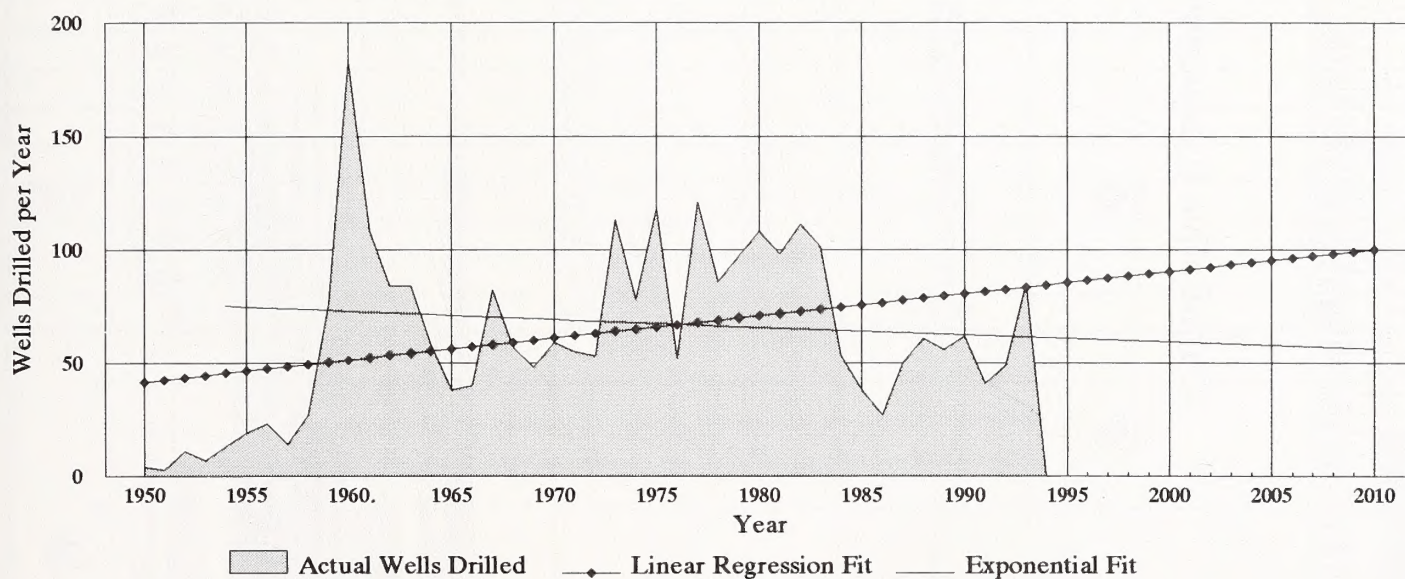
GREEN RIVER RESOURCE AREA REGRESSION ANALYSIS



APPENDIX 12-2

GREEN RIVER RESOURCE AREA WELLS DRILLED PER YEAR FUTURE PROJECTIONS (Based on Wells Drilled between 1950–1993)

Year	Linear Regression $Y = 0.97385483X - 1857.4321$		Exponential Curve $Y = \text{EXP}(-0.00517973X) \times (1.86856 \text{ E}06)$		DCMODE 61 wells/yr Cumulative	J(Ø) 73 wells/yr Cumulative
	Wells/yr	Cumulative	Wells/yr	Cumulative		
1994	84	84	61	61	56	63
1995	85	170	61	122	111	125
1996	86	256	60	182	167	188
1997	87	344	60	242	222	250
1998	88	432	60	302	278	313
1999	89	521	60	362	333	375
2000	90	611	59	421	389	438
2001	91	703	59	480	444	500
2002	92	795	59	539	500	563
2003	93	888	58	597	555	625
2004	94	982	58	655	611	688
2005	95	1,077	58	713	666	750
2006	96	1,174	57	770	722	813
2007	97	1,271	57	827	777	875
2008	98	1,369	57	884	833	938
2009	99	1,468	57	940	888	1,000
2010	100	1,568	56	997	944	1,063

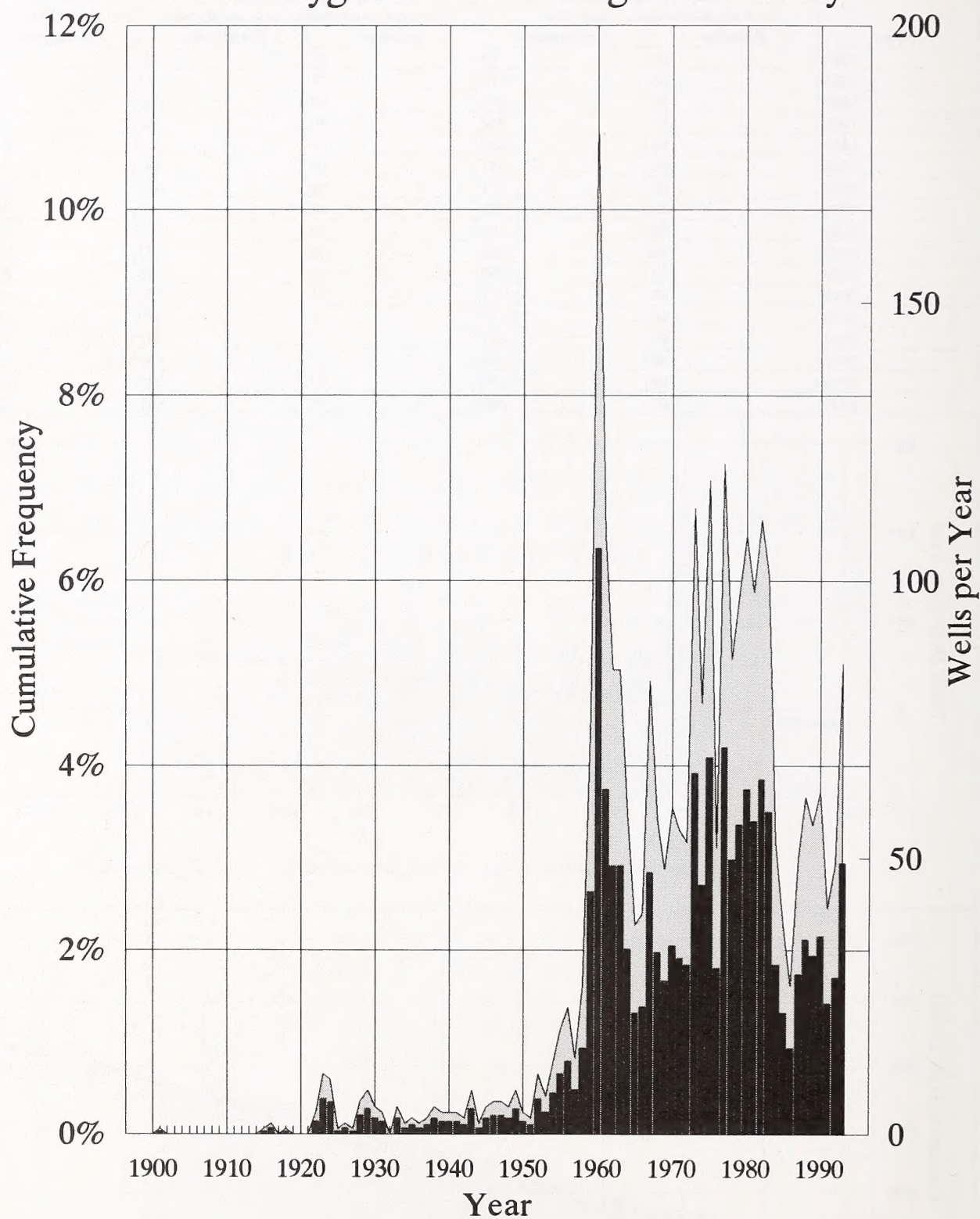


GREEN RIVER RESOURCE AREA OIL & GAS WELLS DRILLED PER YEAR

(Source: Petroleum Information's Well History on CD-ROM, January 1994 Release)

Year	Number of Wells/yr	Cumulative Frequency
1900	0	0.000%
1901	1	0.035%
1902	0	0.000%
1903	0	0.000%
1904	0	0.000%
1905	0	0.000%
1906	0	0.000%
1907	0	0.000%
1908	0	0.000%
1909	0	0.000%
1910	0	0.000%
1911	0	0.000%
1912	0	0.000%
1913	0	0.000%
1914	0	0.000%
1915	1	0.035%
1916	2	0.069%
1917	0	0.000%
1918	1	0.035%
1919	0	0.000%
1920	0	0.000%
1921	0	0.000%
1922	4	0.139%
1923	11	0.382%
1924	10	0.347%
1925	1	0.035%
1926	2	0.069%
1927	1	0.035%
1928	6	0.208%
1929	8	0.277%
1930	5	0.173%
1931	4	0.139%
1932	0	0.000%
1933	5	0.173%
1934	2	0.069%
1935	3	0.104%
1936	2	0.069%
1937	3	0.104%
1938	5	0.173%
1939	4	0.139%
1940	4	0.139%
1941	4	0.139%
1942	3	0.104%
1943	8	0.277%
1944	2	0.069%
1945	5	0.173%
1946	6	0.208%
1947	6	0.208%
1948	5	0.173%
1949	8	0.277%
1950	4	0.139%
1951	3	0.104%
1952	11	0.382%
1953	7	0.243%
1954	13	0.451%
1955	19	0.659%
1956	23	0.798%
1957	14	0.486%
1958	27	0.937%
1959	76	2.636%
1960	183	6.348%
1961	108	3.746%
1962	84	2.914%
1963	84	2.914%
1964	58	2.012%
1965	38	1.318%
1966	40	1.387%
1967	82	2.844%
1968	57	1.977%
1969	48	1.665%
1970	59	2.046%
1971	55	1.908%
1972	53	1.838%
1973	113	3.920%
1974	78	2.706%
1975	118	4.093%
1976	52	1.804%
1977	121	4.197%
1978	86	2.983%
1979	97	3.365%
1980	108	3.746%
1981	98	3.399%
1982	111	3.850%
1983	101	3.503%
1984	53	1.838%
1985	38	1.318%
1986	27	0.937%
1987	50	1.734%
1988	61	2.116%
1989	56	1.942%
1990	62	2.151%
1991	41	1.422%
1992	49	1.700%
1993	45	2.948%

Data Polygram with Histogram Overlay



Cumulative Frequency



Wells per Year

Total Wells = 2,883

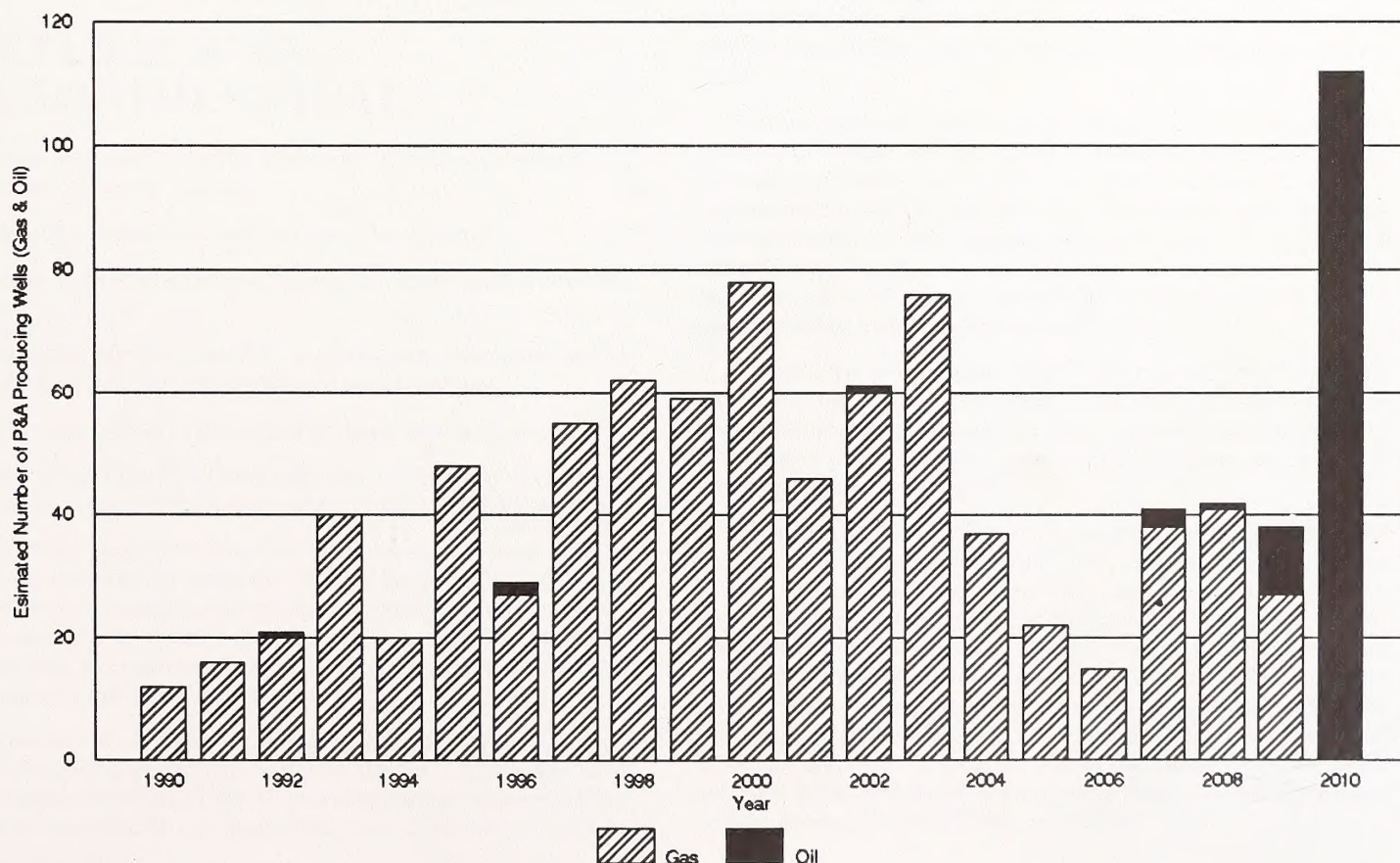
Total Years = 94

GREEN RIVER RESOURCE AREA

PROJECTED PRODUCING WELL ABANDONMENTS

(Based on Wells Completed between 1900–1990)

Year	Total Abandoned Producers	Abandoned Gas Producers	Abandoned Oil Producers
Dec-90	12	12	0
Dec-91	16	16	0
Dec-92	21	20	1
Dec-93	40	40	0
Dec-94	20	20	0
Dec-95	48	48	0
Dec-96	29	27	2
Dec-97	55	55	0
Dec-98	62	62	0
Dec-99	59	59	0
Dec-2000	78	78	0
Dec-2001	46	46	0
Dec-2002	61	60	1
Dec-2003	76	76	0
Dec-2004	37	37	0
Dec-2005	22	22	0
Dec-2006	15	15	0
Dec-2007	41	38	3
Dec-2008	42	41	1
Dec-2009	38	27	11
Dec-2010	112	0	112
TOTAL	930	799	131



Source: PI Historical Well Data

APPENDIX 13

IMPACTS AND RELATIONSHIPS COMMON TO ALL ALTERNATIVES

This appendix identifies general cause and effect actions that occur in the planning area that lead to impacts. The specific impacts are discussed in Chapter 4, Environmental Consequences.

AIR QUALITY

Surface disturbing activities result in wind erosion, which contributes to the particulate concentration in the air, at least in the immediate vicinity of the activity until revegetation has produced an adequate plant cover to hold soil and reduce wind speeds near the ground.

Prescribed burning produces a short-term, but sometimes large increase in particulates in the air in the vicinity and downwind of the burn. Using good burning practices and including smoke management as part of the burn plan using the Simple Approach Smoke Estimation Model can mitigate these impacts.

While individual oil and gas wells are small, the large number of wells already in the area, plus the numbers projected for the future indicate that the cumulative impact of nitrogen oxides, hydrocarbons, sulfur oxides, particulates, and the secondary products of these pollutants emitted by equipment used in oil and gas field development and operations will contribute to reduction of visibility within the planning area.

Given the low buffering capacity of the high alpine watersheds in these areas, the current deposition of sulfate and nitrate measured in the area, should major sources of air pollutants be constructed in the GRRRA, and the wind and precipitation patterns for the area, there is some likelihood that these emissions could contribute to acidification of the nearby high elevation watersheds of the Bridger, Popo Agie, and Fitzpatrick Wilderness Areas.

CULTURAL AND PALEONTOLOGICAL

Impacts to cultural resources are recognized to occur when one or more of the following happens:

- Destruction or alteration of all or part of a property.
- Isolation from or alteration of the property's surrounding environment.
- Introduction of visual, audible, or atmospheric elements that are out of character with the property or alter its setting.
- Neglect of a property resulting in its deterioration or destruction.
- Transfer of a property without adequate conditions or restrictions regarding preservation, maintenance, or use (36 CFR 800.3(b)).

To identify potential impacts to cultural resources, most surface disturbing activities permitted by the BLM are preceded by a Class III (100 percent) pedestrian inventory. The purpose of this inventory is to locate and evaluate all cultural resources in the impact area of a given project, and to assess the nature and magnitude of the potential disturbance to that cultural property.

Exceptions to the Class III inventory requirement may include projects located in previously disturbed areas or in areas that have already been covered by a Class III inventory; projects whose surface disturbance is minimal (e.g., some fence lines, coreholes, single pole

powerlines); and projects planned in areas of demonstrable low potential for containing or preserving cultural resources. Once cultural resources are identified in a proposed project area, several strategies are available for reducing or eliminating the conflict. These steps are outlined in Assumptions and Assessment Guidelines.

Impacts and Relationships Common To All Alternatives

Restrictions placed on surface disturbance activity to benefit other resource values will also minimize potential impacts to cultural resources.

Additional human presence in areas of petroglyphs and other sensitive sites can lead to increased vandalism, artifact collecting, etc.

Management of air quality generally would be beneficial or would have no effect on cultural resources. Deteriorating air quality could be an adverse effect to cultural resources, especially resources having visual values such as historic landscapes. Efforts to control air pollution would be beneficial to visual aspects of cultural resources. In some areas dust, such as from county roads, could cover archeological sites making them more difficult to recognize and protect. Air pollution can also destroy prehistoric rock art and pioneer inscription sites.

Generally, management of special status plant species would have no effect on cultural resource values. The protective mandates proposed for special status plant species habitat could also result in beneficial protection for cultural resources. There is the remote possibility that an archeological site needed for research purposes could be home to any special status plant species thus precluding the site's excavation. Should such a case ever develop, the rare plant resource would likely take precedence over the proposed scientific work.

Data recovery mitigation efforts would inevitably result in destruction of some archeological sites albeit under scientific study the sites are still destroyed. Some recordation techniques, such as making rubbings of petroglyphs, can be detrimental to the resource. Scientific data recovery whether in the context of Section 106 compliance or purely for scientific purposes could have the beneficial effect of increasing our knowledge of the resource and consequently lead to better management strategies.

Collection of invertebrate paleontological specimens inevitably diminishes the scientific data base. Collection of paleontological resources in a scientific context could have the beneficial effect of increasing our knowledge of the resource and consequently lead to better management strategies.

Impacts to paleontological resources from mineral activity could increase. The impact would result from earth disturbing activities such as surface mining, road building, pipeline construction, construction of well pads, evaporation pits, ponds, and buildings. Fossils could be destroyed from these surface disturbing activities, resulting in the potential loss of rare, valuable, and scientifically significant fossils. Potential loss is most likely to occur in areas such as the badland areas of the Washakie Basin and the Green River Basin and in certain areas in the northern part of the Green River Basin (in outcrops of the Bridger Formation, parts of the Wasatch Formation, and the lowest 100 feet of the Laney Shale).

APPENDIX 13

Fire suppression commensurate with resource values would generally be beneficial to cultural resources. However, fire could adversely affect cultural resources. Suppression activities, such as heavy equipment use and chemicals, could also damage cultural resources. It is not anticipated that a large number of sites would be affected due to the small number of fires expected to occur. Fire suppression could be necessary to save historic structures, wood alignments such as prehistoric drivelines, and prehistoric structures such as wickiups. Use of chemical fire retardant containing dye could damage rock art sites and historic inscription sites. Standard practices for dealing with cultural resources in a fire suppression scenario, including post-fire Class III inventory, could lead to the beneficial effect of increased data and better understanding of the cultural resource.

Timber harvesting and construction of associated roads, landings, etc. could destroy an undetermined number of cultural resources. Activity as a result of firewood cutting, post and pole harvest, and Christmas tree cutting could have indirect impacts on cultural resources by increasing the potential for vandalism and looting damage from vehicle traffic.

Construction and clean up of landfills could destroy sites. Dump sites associated with historic sites could become illegal hazardous waste dumps thereby necessitating their destruction in order to clean up hazardous materials. It is impossible to predict which sites could become illegal waste dumps.

Clean up of illegal hazardous waste disposal sites could result in the destruction of cultural resources. There may be no way to mitigate these impacts and the need to protect human health is obviously paramount. However, cultural resources should be taken into account and effects mitigated if it is practical.

Emergency hazardous waste clean up situations could result in loss of cultural resources.

No significant impacts are foreseen from land disposal actions given that Section 106 compliance would have to be achieved in any land disposal action. There would be substantial beneficial effects from acquisition of lands that would add to BLM comprehensive management of cultural resources.

Generally withdrawals and special status classifications would have protective effects to cultural resources.

Confinement of major transportation and utility line rights-of-way to windows, and ROW concentration areas would have the beneficial effect of minimizing potential impacts to significant cultural resources.

Acquisition of access to cultural sites on BLM-administered lands would benefit cultural program.

Upgrading historic roads or trails could alter their historical integrity.

Impacts to cultural resources caused by livestock grazing include minor physical disturbance to surficial cultural resources caused by trampling and erosion. Riparian areas and historic routes of passage are the most sensitive cultural resource areas subject to grazing impacts.

Construction of watering sources, fences, etc., could destroy sites. Livestock rubbing on trail markers, petroglyphs sites, etc., could damage the cultural resources. Livestock trailing along fences can cause trampling of sites. Livestock seeking shelter and shade in standing historic structures could damage the integrity of the structure as well as its historical ambience.

Historic mining sites are often especially vulnerable to impacts from present day coal developers.

The area around North and South Table Mountains, Natural Corral, and the canyons north of Rock Springs (i.e., Cedar, Pine, Long, Deer, and Crooked Canyons) are all known to have high densities of prehistoric sites (based on BLM Class II inventories as well as an inventory done on behalf of Rocky Mountain Energy) and any coal development would cause an impact.

Locatable mineral management could pose special problems for cultural resources since under the 1872 Mining Act it would be incumbent upon BLM to mitigate cultural values for any approved mine operation. Furthermore, the time frames for completing mitigation could be very short and may not allow BLM to plan annual work to take this demand into account.

There is some potential that a jade mine could be opened over a prehistoric source of jade used for ceremonial purposes by Native Americans, resulting in destruction of a significant cultural resource.

There is some potential for a gold mine to be proposed at the location of a historic mine which could result in destruction of a significant historic property.

Off-road vehicle use has a potential to impact cultural resources by increasing erosion and artifact collection. ORV paths can destroy integrity of historic trails. Restrictions on ORVs will thus enhance cultural resource protection. Use of snow machines has little, if any, impact upon cultural resources. Increased recreational use of the planning area may result in increased vandalism and artifact collecting.

Events such as ORV rallies and cross country races could have major impacts on the fragile kinds of cultural resources, especially sites in sand dunes that we have in this planning area. Similarly, driving of heavy trucks across fragile surfaces (e.g., sand dunes) can cause damage to sites including destruction of vegetation and accelerated erosion.

Management of recreation on public lands would generally be beneficial to cultural resources by educating and sensitizing people to cultural resource values and managing their use of the land. Interpretation and other recreation management of specific cultural resource sites could have the beneficial effect of demonstrating management presence and sensitizing the public to resource values.

Generally, prescriptions for vegetation resource management would have no effect. Improved vegetative density and diversity would prevent erosion and thus be beneficial in preventing erosion of archeological sites. Vegetation manipulation by burning and mechanical treatment can impact cultural resources by increasing erosion and altering the physical remains. Chaining or large area ground disturbance could cause major damage to cultural resources.

Generally, visual resource management would have only beneficial effects. Measures to protect visual resource values would also protect the visual aspects of many types of cultural resources such as historic landscapes, petroglyphs, vision quest sites, and other sites sensitive to Native American concerns.

Generally, land management decisions that lessen natural erosion or that prevent actions that would accelerate erosion would benefit cultural resources.

Generally, management implemented to improve watershed quality would equate to less erosion which would benefit cultural resources. Occasionally, watershed and cultural resources may both be at risk in the development of facilities such as oil and gas wells, pipelines, or access roads. At times, it may be impossible to avoid a

significant cultural resource without placing a facility in a location that would be detrimental to watershed. In these cases the values must be weighed and it may be necessary to conduct data recovery or other mitigation to the cultural resource, or even to allow it to be destroyed in order to protect the watershed values.

Generally, activity associated with wild horse management would have minimal potential to adversely affect cultural resources. Furthermore, wild horses add a certain aesthetic continuity to management of cultural resources associated with Plains Indian culture and settlement of the American west. There is minimal potential for horse traps, corrals, trampling by horses and truck traffic to destroy sites.

Construction of wildlife and fishery management facilities could have a small potential to damage sites. Chaining and other actions causing large areas of surface disturbance could destroy many sites. Generally though, habitat actions do not conflict to any great extent with cultural resources.

Unavoidable Adverse Impacts

Unavoidable adverse impacts occur when the inventory preceding surface-disturbing activity fails to locate significant cultural or paleontological resources, or when the significance of these located resources is not recognized. Illegal artifact and fossil collecting and vandalism result in unavoidable adverse impacts.

Short-Term Use Versus Long-Term Productivity

The primary avoidance strategy applied in cultural resource management stresses the long-term productivity of the resource. Short-term use of paleontological, prehistoric, and historic sites implies excavation by qualified persons. This use is inherently destructive in nature, but the scientific knowledge obtained by study of excavated materials offsets this loss and is productive in the long-term. Unauthorized removal of cultural and paleontologic resources results in permanent loss because these resources are nonrenewable. Short-term use of the historic trails by interested parties may result in limited degradation of this resource in the long-term, because of alteration of the trails themselves or of their surrounding environment.

FIRE

Effects of Fire Management on Plant Communities

Elevational range extends from about 6,000 feet to over 8,500 feet. Precipitation varies from about 7 to 14 inches. Soils are shallow on the ridges but deeper and more productive in the valleys. Major plant communities include high and low density sagebrush, juniper, greasewood, and saltbush.

Sagebrush-Grass

Basin big sagebrush, Wyoming big sagebrush, and mountain big sagebrush grow alone or in combinations. Commonly, basin big sagebrush grows in deeper soils, mountain big sagebrush is at higher elevations, and Wyoming big sagebrush occupies soils with a root restricting layer or rock. All three subspecies of big sagebrush are easily killed by fire. Several needlegrasses (subalpine, Letterman, and needle and thread) may be present; all are initially reduced by fire but recover, and production may increase over preburn levels in 10

to 12 years. Recent evidence suggests that green needlegrass is not harmed by fire in Wyoming. Season of burning and plant size are probable links to needlegrass damage; June and July fires are most damaging, and large plants are harmed more than small plants. Bluebunch wheatgrass is less sensitive to fire; it normally recovers within two years and may double preburn production within five years. Idaho fescue is normally reduced by summer wildfires, especially on marginal sites, but recent evidence indicates that damage from fall prescribed burns may be less than indicated. Basin wildrye is retarded by early summer fires but unharmed by fall prescribed burns; a fall, 1983 prescribed burn west of Kemmerer resulted in wildrye greater than six feet tall, increased seed stalk production, and no apparent reduction in basal area by July 1984.

Aspen

Aspen is a self-perpetuating climax plant on some sites but is probably seral to shade-tolerant conifers on most sites in the resource area. On seral sites, it is dependent on periodic fire or other disturbance to induce suckering and remove conifer competition. The general response to burning is an eruption of suckers (up to 30,000 or more per acre) for one to three years, after which suckering ceases and the clone begins to mature. On seral sites managed for wildlife habitat, topkilling with fire is necessary to stimulate accessible, high quality browse.

Mountain Shrub

A complex mountain shrub community exists on the resource area. Dominant shrubs include mountain snowberry, antelope bitterbrush, Utah serviceberry, true mountain mahogany, curleaf mountain mahogany, and several species of currants. Understory species may include a rich mixture of forbs and thickspike wheatgrass, Idaho fescue, timothy, and mountain brome. Horsebrush, rabbitbrush, and broom snakeweed are minor components that usually increase after burning. These communities are temporarily (1 to 12 years) retrogressed by fire but the long-term (10 to 30 years) effect is increased forage and browse production. Soil erosion problems, even on slopes greater than 40 percent, have not been reported in Wyoming. Of the more palatable shrubs, only antelope bitterbrush is usually harmed; however, the Rock Creek prescribed burn west of Kemmerer (September 1983) resulted in about 66 percent of the bitterbrush resprouting on that site. Most mountain shrub communities need protection from fire only where they exist as limiting, crucial winter range. Even then, planning would allow portions to be burned while reserving the remainder for immediate wildlife needs.

Willow

Willow communities are usually riparian and not exposed to fire except during drought years. Willow communities are extremely tolerant and most sprout vigorously. Burning willows is detrimental only in that thermal cover is removed along streams, ponds, and reservoirs. Burned willow communities are attractive to moose and may be overbrowsed if small areas are burned or the moose population is large. Domestic livestock also abuse willow communities; therefore, willows may need protection for one to three years after burning to allow recovery.

Conifer

The acreage classified as forestland includes lodgepole pine, Douglas-fir, limber pine, subalpine fir, and Englemann spruce; these trees may occur as relatively pure stands or as mixed stands. The true firs and limber pine are very sensitive to fire and are easily killed by cambial damage or crown scorch. Lodgepole becomes more suscep-

tible to mountain pine beetle attack, windthrow, and wildfire within 100 years of stand establishment. Lodgepole is very susceptible to stand-replacing fires and is easily killed, but regenerates rapidly and prolifically. Douglas-fir is easily killed by fire from seeding through pole stages, but mature trees are extremely fire resistant. Englemann spruce and subalpine fir commonly occur together at elevations above 9,000 feet. They are both thin-barked and easily killed, but reestablish quickly on north-facing slopes. They may succeed initial establishment by aspen or Douglas-fir on south slopes.

Low Sagebrush

Common low sagebrush communities consist of relatively pure stands of black sagebrush, alkali sagebrush, or low sagebrush. Various annual and perennial forbs are present. These communities often do not support sufficient fine fuel or sagebrush cover to burn. If they do burn, all three sagebrush species are easily killed but grasses recover quickly. These sites usually are not productive and, therefore, are not good candidates for prescribed burning or rehabilitation after wildfires.

Juniper

Juniper communities often have a high frequency of lightning ignitions but lack of surface fuel prevents fire spread. Trees shorter than four feet are easily killed by surface fires if sufficient fuel is available at the base of the tree, but large trees are relatively fire resistant. Crown fires are possible when canopy cover exceeds 40 percent. Juniper does not sprout.

Greasewood

Localized saline areas support greasewood communities that may include fourwing saltbush and saltgrass. These communities are not of concern in fire protection and rarely produce cost-effective prescribed burns. Some decadent communities may benefit from fire, fire plus chemical sprout control, or fire plus reseeding. Seeding is risky, however, because few grass species are productive on these sites. Short-term removal may be preferred over unavailability of understory.

Meadows

Wet meadows are often dominated by sedges and rushes, and may have inclusions of willow or aspen. Dry meadows often contain tufted hairgrass and several bluegrass species. There may be a benefit from burning wet meadows in western Wyoming although most are relatively fire resistant. Wet meadows may burn during dry years, and the temporary effect is a shift away from sedges and rushes toward grasses and forbs. Unless the water table is altered, wet meadows return to preburn conditions in fire to seven years. Dry meadows may be invaded by various woody species including silver sagebrush. These dry meadows benefit from periodic burning because woody plant encroachment is retarded. Dry meadows may be seral to shrublands and require periodic maintenance fires. Threadleaf sedge, which may occur in some meadows, is sensitive to fire, may require 12 to 15 years to recover, and can be eliminated by repeated burning in shorter intervals.

Summary

Most plant communities in the resource area respond positively to burning. Sites in good to excellent range condition usually recover naturally to preburn conditions in one to three years, with reduced cover of non-sprouting shrubs. Grazing and other uses can be resumed in 2 or 3 years. Many opportunities exist to take advantage

of this response with spring and fall prescribed burns and with prescribed fires (unplanned ignitions).

LANDS

Actions taken under the alternatives apply only to BLM-administered land and would have a slight affect on private land owners. Most of this affect would come in the form of time delays for processing applications and increased costs of mitigation. Actions on private lands can have an affect on BLM-administered lands also. This is particularly true of mineral development. Drainage of fluid minerals or excavation of solid minerals can lead and has led to leasing of adjacent federal minerals to protect the public interest.

SOILS

Under all alternatives, operators determine when soil moisture conditions are too muddy, often after soil damage has occurred from truck-mounted operations. Loss of soil aggregation and compaction result when soils are moist and subjected to truck operations. Existing management practices allow incidents of vehicular damage and accelerated erosion to continue, especially during the spring.

Due to the provision which allows the operator to determine muddy conditions, the potential for geophysical operators to cause rutting and excessive compaction would continue. This would be associated with decreases in long-term soil productivity in areas of disturbances.

Field observations indicate that reclamation of slopes from 15 percent to 30 percent is difficult and such slopes have not been consistently reclaimed.

Irretrievable soil loss would be expected from some sites within this slope range. Failure of contractors to adhere to the standard stipulations compounds the problem and contributes to reclamation failure and increased time of exposure to erosive agents.

Loss of streambank stability and direct sedimentation associated with mining would not be significant due to the small number of claims. Those areas stipulated for no surface occupancy would have no direct impacts on soils due to development constraints.

Use of constructed and designated equipment crossings in riparian areas would minimize logging impacts to streambank stability and avoid excessive bank erosion.

Soil productivity on reclaimed areas would be variable and dependent on soil characteristics, reclamation procedures, and treatment of topsoil. In areas with slopes greater than approximately 25 percent, reclamation could be difficult, diminishing soil productivity through loss of topsoil.

VEGETATION

Like soil, vegetation would be affected by surface-disturbing activities. For example, a loss of plant cover would occur from construction of drill pads, roads, drainage crossings, pipelines, power lines, and other structures, as well as from forage consumption by livestock and wildlife, and loss of forage from fires.

An estimated 75 percent of the area disturbed by oil and gas related activities would be reclaimed and revegetated within 3 years after disturbance. Impacts to vegetation result from erosion, soil compaction, total removal, siltation, mechanical injury and disturbance of plants, and competition from species that invade disturbed sites.

Although sites would be reclaimed to as near original condition as possible, there would be some residual impacts especially on the more sensitive or fragile areas. For example, reclamation could result in a change in aspect. Even well established vegetation may not completely match the surrounding native plant community.

There would continue to be a loss of timber because of mortality under all alternatives. A portion of the timber would degenerate because of overmaturity and decadence, stagnation, insect attacks, and diseases (primarily parasitic mistletoe infestations). In unmanaged stands, old growth would continue to die and timber resource values would be lost. Where understory stands of regeneration are present, some would be infected with mistletoe and other diseases, resulting in a loss of some growth potential.

WATER DEPLETIONS AND THE COLORADO RIVER ENDANGERED FISH

A biological assessment has been completed for the RMP which represents the formal consultation for these activities as they impact Colorado River endangered fish (see Appendix 14).

WATERSHED

Generally, the same activities that affect soils also affect surface water. Soil disturbances that cause erosion also increase sediment delivery to surface water. Since the resource area is in the Green River drainage, a minimum of 10 percent of all erosion occurring is assumed to be delivered to the Green River.

Increased sedimentation would degrade water quality and affect the whole food chain of aquatic life, from plants to invertebrates to fish. Sedimentation also destroys fish spawning habitat, eggs, and fry, as well as invertebrates which form the foundation of the aquatic food pyramid. Water temperatures would increase and dissolved oxygen concentrations be reduced, both of which would cause direct mortalities to fish and other aquatic life.

Some produced water discharges from oil and gas operations create additional aquatic habitat and make additional water available to irrigation. However, quality of discharged water may degrade the water quality of the receiving ephemeral or perennial stream enough to preclude its use for municipal drinking water, wildlife, recreation, and irrigation purposes. The quality of produced water discharges is required to meet or exceed the State of Wyoming Chapter VII Water Quality Regulations.

A potential impact on surface water could also come from oil spills. An oil or salt water spill entering a live water body could have a significant and long-lasting effect by making the water unsuitable for domestic livestock, wildlife, agricultural, and industrial uses. The impact from a spill, if unchecked, could extend for miles throughout many drainages.

Oil spills and soil related chemicals entering aquatic habitats coat stream bottoms and riparian zones and the chemicals contaminate the water. This could kill fish and wildlife directly, cause chronic sickness among animals, or cause wildlife to move out of the affected areas. Affected wildlife includes birds and aquatic invertebrates, fish, and other cold-blooded animals which inhabit or depend upon the riparian zone for survival. Warm-blooded mammals such as beaver muskrat, and mink are probably harmed through contact or ingestion. Oil spills also cause a loss of feeding and spawning habitat for fish.

Ground water contamination during drilling operations could occur if circulation of the drilling materials is lost or water-bearing formations are improperly cemented and cause interaquifer mixing. Ground water contamination could also occur due to blowouts and improper fracturing of hydrocarbon formations. Aquifers that have been contaminated in the past generally do not improve and would remain in the same condition. In addition, dewatering of coal or coalbed methane can adversely affect both quantity and quality of groundwater since such large areas are dewatered and the produced water is either re-injected or evaporated.

Freshwater aquifers could be contaminated by surface-disturbing activities due to a lack of inventory that specifically identifies their characteristics.

Beaver activity can become so intense that many of the aspen stands are removed for beaver dam construction. The results of such activity can effectively reduce the evapotranspiration capabilities of many watersheds thereby increasing the magnitude of runoff events. This increase of runoff in many instances can be large enough to initiate channel incision and degradation.

WILD HORSES

Direct impacts to wild horses consist of two basic types: those related to the forage component of the habitat and those involving spatial displacement due to physical disturbance. Surface disturbing activities produce both types of impacts through the actual removal of vegetation and through the increased activity that occurs within the vicinity of the activity. Other activities such as livestock grazing have the potential to produce impacts that are more confined to possible competition for forage. Some activities produce impacts that are mostly related to disturbances that cause physical displacement, either temporary or long term, of the horses. Activities of this nature include those related to dispersed recreation. Of the two types of impacts, those related to forage removal are more serious and long lasting.

The forage base for wild horses is presently not considered to be limiting except for very isolated, specific sites. An increase in livestock grazing to full active preference would increase the potential for forage competition among wild horses, wildlife and domestic livestock. Management actions taken to improve the forage resource would be beneficial to wild horses.

WILDLIFE MANAGEMENT

General Impacts and Relationships

Fish and wildlife populations are dependent upon the continuing presence and usability of crucial habitats in adequate quantity and quality for long-term maintenance. The most severe impacts resulting from livestock grazing and surface disturbance activities have been long-term or permanent physical removal of habitat, long-term changes in habitat structure (i.e., vegetative composition), and creation of habitats of little value to wildlife. For fish and other aquatic species, degradation of water quality through sedimentation, spills, thermal pollution, etc., could result in substantial habitat loss.

If these losses occurred in crucial habitats or in habitats that provide buffer zones for crucial habitats, significant long-term reduction in the populations of affected species would occur. In the process, the condition of adjacent, undisturbed crucial habitat could deteriorate as a result of excessive use by displaced animals. This could cause reduced overall carrying capacity, further depressing wildlife populations.

Since precise predictions cannot be made about where future surface disturbing activities will occur, predictions cannot be formulated as to the extent a particular big game herd, habitat site, sage grouse population, etc., would be affected by habitat loss. Through past experience, some reasonable estimates can be made.

Adverse wildlife impacts become more serious when they occur during critical periods of the animal's normal life cycle. All species (terrestrial or aquatic) that are subjected to intrusion or habitat alteration during critical periods of their life can be affected. Critical periods for big game are winter and parturition seasons, the breeding-nesting periods for sage grouse and raptors, spawning seasons for fish, etc. The actual dates of a critical period in any species' life cycle varies but are related to cycles of low vigor, high stress, breeding, climate, and other such factors.

Winter is the most critical period for big game animals in this region. Animals are commonly under extreme environmental stress, enduring cold temperatures, deep snow, and forage that is limited in availability and nutritional quality, all of which contribute to a negative energy balance. Under these conditions, mortality is a normal occurrence. Mortality will fluctuate significantly from year to year, depending on the severity of the winter. A base population of females carrying young will survive, but often by late winter and early spring, the number surviving and their potential for successful parturition of healthy young animals is in a delicate balance. The imposition of additional, unnatural man-caused stress, such as that inherent in surface disturbing activities and maintenance and operation activities, on wintering big game herds can cause additional adverse effects to environmentally stressed big game on winter ranges.

In addition to the impacts from habitat loss, wildlife populations may be seriously affected by activities which subject animals to excessive stress, disturbance, and displacement. A variety of human activities involved in oil and gas industry, other industries, agricultural, and recreational pursuits, can create these impacts on wildlife.

Implementing management actions that would enhance candidate and sensitive species habitat and prevent species listing as threatened or endangered would benefit all parties in the area.

The impacts to threatened and endangered species are summarized in the Biological Assessment found in Appendix 14.

Management Practices Affecting Wildlife

Air quality should have little effect on resident wildlife populations, habits, or behavior. The residual effects of trona dust, acidrain, road dust, and other pollutants may damage wildlife habitat (soil sterilization causing loss of vegetation or altering of the vegetation community), wildlife health, and special status plant species' reproductive capabilities. In this case, short-term effects may be insignificant but long-term effects could be measurable (especially in relation to browse plants, cover, and forb production). Fog, smog, or other visual pollutants may impair flight visibility and result in some mortality for migratory birds and passerines. Monitoring of emissions to alleviate air quality problems from local plants could result in beneficial impacts to wildlife.

Generally, wildlife and their habitat would benefit by greater emphasis on special status plant species management. Lack of information on other suitable habitats and other unknown plants may cause losses to special status plant species.

Added protection of cultural resources would benefit wildlife and result in beneficial impacts to wildlife. Protection of designated and

nondesignated trails would benefit wildlife and wildlife habitat. Restrictions on visual distance from historic trails or landmarks for disturbances could reduce capability for construction and maintenance of some wildlife protection or enhancement facilities. This could also reduce capability to do vegetation manipulation. Management of the South Pass Historic Landscape would give added protection to some wildlife habitats resulting in beneficial impacts.

No significant impacts to wildlife are likely to occur by fire management activities. Some adverse vegetative impacts could occur in wildfire areas where livestock grazing is not restricted following a fire. This could cause increased use by livestock in the burn areas and result in poor forage and cover reproduction and long-term reduced available forage for wildlife. Smoke and particulate from prescribed burns and wildfires could have the short-term effect of wildlife displacement.

Complete suppression of all fires in some areas could cause adverse impacts to wildlife where aspen regeneration is targeted for wildlife.

Timber harvest changes wildlife habitat by removing trees that serve different functions for different species. Timber sale design can determine the extent of impact and whether the impact is positive or adverse. Timing, size, and location of timber sales, road construction, slash disposal, and reforestation techniques all impact wildlife habitat. Other land uses that occur in addition to timber harvest can have secondary impacts to the forestry program. Roads created during logging and not closed following harvest are used for hunting, fishing and recreation access. This creates additional adverse impacts to some forms of wildlife. The intensive field development required for oil and gas production accentuates the importance of trees for security cover for certain species. Livestock use of clearcuts following timber harvest can negate the positive affect of increased forage production from canopy removal and retard reforestation efforts.

The impact of timber harvest for some species is direct and adverse (e.g., cutting a tree used by cavity nesters removes their home). For other species, the impact is less obvious and more difficult to quantify (e.g., cutting security cover for elk may also increase forage production). These instances must be evaluated individually to determine which factor is more limiting (security cover or forage).

Harvest techniques in the resource area have evolved into a silviculturally sound basis, whereby reforestation through natural processes occurs. Older clearcuts (1950s and 1960s) were larger and reforestation efforts have been hampered by changes in microclimate and inadequate reservation of leave trees for seed sources. Using modern techniques, a clearcut stand of lodgepole pine can be expected to reestablish naturally to the present density of trees, 8 to 12 feet high within 20 years. Some of the clearcuts accomplished in the early 1960s are not fully reforested despite intensive artificial reforestation efforts. These older clearcuts have created an adverse, long-term impact to wildlife that depend on trees for habitat. Conversely, modern silvicultural techniques can, while providing an initial adverse impact, in the long-term maintain healthy, growing stand of trees for desirable wildlife habitat. Forestry practices that promote successional stages (i.e., mixed aspen and fir versus monotypic fir) are more desirable for wildlife. Forestry practices that concentrate management on one economically desirable tree species and attempt to control competition from other tree and browse species can reduce habitat quality by limiting stand diversity. Stand density, as well as diversity, is an important habitat feature for some wildlife. Dense old growth timber provides values not present in younger, open stands. The size of each block of timber is also important, especially for big game security cover in areas where human activity levels are high

(refer to the Affected Environment section for further discussion under elk/timber relationships).

Forested areas in the planning area are minimal and any commercial timber harvest could reduce arboreal species richness, reduce resident wildlife densities, and cause loss of hiding and escape cover, parturition areas, nesting habitats, and a potential increase in siltation of streams.

Habitat used for nesting, cover, thermal protection, forage, and escape would potentially be altered or destroyed for the long term with anticipated slow timber stand regeneration (under present precipitation and short growing season regimes). Selective cutting (8" DBH and greater) and clearcutting would produce long-term adverse impacts to most mature forest dependant species in those localized areas.

Harvest of minor forest products (i.e., fuelwood, posts and poles, wildlings, and Christmas trees) should not cause any adverse impacts to wildlife or wildlife habitat.

Priority harvesting of mature, decadent, and diseased trees could have adverse impacts to some wildlife species dependent on old growth forest for habitat.

Cumulative impacts resulting from timber harvest activities on adjacent state land and other activities such as recreation and off-road vehicle use, could add to wildlife displacement and habitat loss.

All hazardous waste sites can be detrimental to wildlife. Illegal dumps, trona ponds, phosphate ponds, oil reserve pits, etc., can result in direct or indirect mortality to waterfowl, neotropical birds, big and small game, and other mammals.

Land disposal may result in loss of crucial habitats for some wildlife species. Land acquisitions in sensitive or high value wildlife habitats could help maintain a suitable land base to perpetuate the wildlife resource.

Revoking some Public Water Reserves and other withdrawals may adversely impact riparian and other habitats by opening these areas to mineral entry. No major wildlife impacts are anticipated if we allow "carte-blanche" construction of advertising signs.

Concentration areas for utilities and transportation are not being designated but would be confined to established concentration areas. This may decrease the impact to wildlife habitat by minimizing the area of disturbance. Authorizing linear surface-disturbing activities should result in short-term loss of vegetative cover and forage and alteration of natural landscapes. Linear disturbances (rights-of-way, etc.) can result in long-term vegetative loss due to unsuccessful reclamation and overgrazing by livestock. Reduced or insufficient funding can hamper or delay monitoring efforts and result in longer term damage.

Displacement by human activity is a major impact to big game and other wildlife. Human disturbance associated with the maintenance and operation of communication sites, particularly those with multiple facilities, could cumulatively stress a variety of resident wildlife. Short-term displacement of big game from winter concentration areas into adjacent winter habitat areas may cause habitat deterioration as a result of excessive use by displaced animals.

In some areas, above ground pipelines are desirable to reduce impacts to wildlife habitat (vegetation and topography). This could help reduce erosion and sediment loads to area streams. Sediment loading into the Green River is particularly a problem in the Little Colorado gas field because of the steep terrain and unstable soils. Pipelines also result in the creation of new roads which could add to the displacement of wildlife from critical habitats.

Livestock grazing removes vegetation from rangelands that also support wildlife. Impacts to wildlife include direct competition for forage, reduction in cover for smaller species, increased erosion, and long-term changes in plant composition which can result in reduced wildlife production (i.e., poor condition riparian zones and sagebrush-grass types). Range improvements such as water developments, fences, and brush control associated with livestock management also impact wildlife distribution and habitat quality. These impacts can be adverse or positive, depending on the species and characteristics of the habitat affected.

Competition for vegetation often occurs when livestock remove desirable grasses, forbs, and browse on crucial wildlife habitats. This may occur while the livestock and wildlife are sharing the same range, or livestock removes the vegetation prior to wildlife presence (i.e., cattle summering on elk winter range).

The long-term effects of changes in vegetative composition from livestock grazing and associated brush control practices are more profound than the annual removal of herbage. Selective grazing pressure and other environmental influences can favor certain plant species to the detriment of others, thus altering the composition of the plant community. Wildlife that need the plant species favored by these influences benefit. Wildlife species that require a plant species that is reduced or eliminated by a particular activity will decline and possibly disappear. For example, sage grouse and mule deer habitats have generally improved from livestock grazing primarily on grass, which resulted in increased sagebrush.

Livestock grazing in riparian zones has had a more severe impact on more wildlife species due to general overuse of these crucial habitats. Big game, upland game, nongame, and fish are all affected by summer-long livestock use which allows little or no regrowth of riparian vegetation, tramples stream banks, causing sedimentation and degrading water quality, and can eventually lowers the water table. Long-term changes in vegetative composition can include eventual conversion to dry, upland vegetation. Tree and shrub production can be limited due to livestock grazing seedlings and young plants before they reach maturity and provide vertical structure to the riparian plant community.

Allotment management plans (AMPs) would be implemented, but with no specific time frame or date. Riparian objectives would be identified in these plans with grazing systems designed to improve riparian habitats within the Bureau's proposed time frame. Current AMPs without riparian area objectives would need to be amended. Until riparian objectives could be developed and implemented, adverse impacts to riparian habitat would continue to occur through loss or deterioration of streambanks, a continuing downward trend in vegetation quantity and quality, and a decline in species composition and diversity.

Providing additional alternate watering facilities for livestock to relieve grazing along streams may place livestock in crucial habitats or areas which now provide high value forage and cover. These waters may also be placed on ridgetops where that habitat type and forage cannot tolerate heavy grazing, resulting in a long-term conversion in plant community. This activity could result in adverse impacts to the wildlife resource.

The oil and gas industry is a major contributor to these types of impacts because their activities are widespread throughout the resource area and they primarily work in rural areas that are often prime wildlife habitats. Their operations are often intermittent, with changing phases, making it more difficult for wildlife to adapt to the intrusions. The operations usually involve large mobile, noisy equipment such as drilling rigs, earth-moving equipment, trucks, ditchers, helicopters, snow removal equipment, over-snow vehicles,

and explosives. Commonly, numerous transport vehicles and workers are involved. The major industry operations causing these types of impacts are geophysical exploration, wildcat drilling, access road development into remote sites, transport pipeline construction and related facilities, and maintenance and operation of producing well sites.

Oil and gas activities such as geophysical exploration, exploratory drilling, road building and upgrading, field development (including all types of facility and equipment construction), pipeline construction, maintenance operations, and abandonment operations could cause habitat losses. If current or increased levels of industrial activity continued for another 10 to 60 years in high-value habitat sites or important seasonal ranges, significant adverse impacts to fish and wildlife populations would occur.

Research on the effects of oil and gas activity on big game or any other wildlife is limited. Most studies that have been conducted lacked adequate controls and have been short-term baseline inventories (Seeman and Associates 1984). Studies documented big game populations displacement but precluded accurate interpretation of the effects on complex population dynamics. Hunted big game herds apparently respond more strongly to human disturbances than unhunted herds. All segments of all big game herds in the resource area are subject to sport hunting. In forested areas, elk are displaced if activities are seen within $\frac{1}{2}$ mile. In desert areas, that area of displacement may increase to 2 miles or more for visual disturbance.

In those herd units where concentrated parturition areas are documented, the disturbance and displacement of female elk with young could significantly reduce survival of young. The potential for mortality to young animals is high because of the vulnerability to predation, accidents, and disease (Schlegel 1978). The first few days after birth, the ability of young animals to travel is extremely restricted. Females displaced out of preferred habitats prior to parturition may have young in unsuitable habitats, reducing the chances for survival.

Success of breeding activity on sage grouse leks and the success of nesting and brood hatching throughout associated nesting habitat can be adversely affected by a variety of oil and gas operations. Disturbances that disrupt the courtship breeding rituals on sage grouse leks may disperse grouse from historical areas, or scatter mature hens and breeding males. This may result in fewer successful nesting attempts and a short-term population reduction. Prolonged, repeated, or exceptionally disturbing activities such as blasting in prime nesting areas, can cause abandonment of nests and reductions in local populations. Habitat losses from oil and gas development in nesting areas can cause more serious long-term effects on sage grouse populations than short-term disturbing activities. Minimizing losses in annual reproduction through the use of seasonal stipulations that reduce disturbance of breeding-nesting processes in intact habitats, may help offset some habitat related losses.

Human disturbances to raptors are detrimental during the breeding-nesting season (Olendorff, et al. 1980). Each species may breed at a slightly different time. Disturbance during nesting activity can lead to nest abandonment or reduced survival of young when parents spend too much time displaced from the nest. Losses from predation and injury also occur when young raptors approaching the fledgling stage are disturbed, causing them to leave the nest prematurely. These disturbing activities often result in local populations being depressed.

Seasonal restrictions (stipulations) protect crucial habitats during the construction phase of oil and gas development. Impacts from human activity would continue to occur over the long term during the operation and maintenance phase. Some leases were offered before

restrictions were required and do not have stipulations attached to them. This has had some adverse impacts to both wildlife habitats and populations.

Produced water may contain salts or other concentrations which may be toxic to small wildlife and avifauna. If unfenced, new water sources could encourage additional wildlife forage competition from livestock and encourage big game to remain on crucial habitats during the summer. Neotropical birds and small mammals could be lost if open produced waters are not netted or adequately protected.

Subsurface coal extraction is the method which would create the least adverse impact to the wildlife resource and maintain biodiversity and habitat structure in the Rock Springs Uplift. Activities disruptive to wildlife and which would remove habitat include haul roads, powerline construction, buildings, railway facilities, and parking areas. Maintenance and operation activities would continue to displace some wildlife during the life of the mine.

Strip mining eliminates habitat for most indigenous wildlife species during mining operations. Long-term adverse plant and wildlife impacts are anticipated to be reduced through eventual restoration and revegetation of strip mined areas.

Seasonal, no surface occupancy, and other stipulations are assumed to be adequate to mitigate impacts. All coal mining activities in crucial wildlife habitats would have coal unsuitability and other surface protection restrictions in place.

Existing wetlands, springs, and riparian areas would be lost during the life of a strip mine plus another 10 to 20 years during reclamation and restoration. Mitigation could replace some of these features in adjacent areas; however, adverse affects would still occur to some of the species that occupied the original wetland because many of the pre-mining species are not mobile and require long time frames to pioneer into new habitats. Disruption of the natural terrain and eventual reclamation may not provide suitable seedbed or soils for growth of essential winter big game browse species for 20 to 50 years. This could adversely affect several wildlife species occupying the Rock Springs Uplift.

Cliff and other raptor nesting habitats may be destroyed by strip mining and may be replaced with less suitable habitat (Benson 1979, Evans 1980, Harmata 1991). Hunting areas, roost sites, thermal radiation cover or exposure areas may be altered so they would no longer satisfy birds of prey requirements.

Depending on successful revegetation of mined lands to grass, forbs, and some shrub species, the time for suitable habitat restoration may persist for an even longer period as access roads, railroad spurs, and powerlines remain during and following restoration of habitat. Restoring big game browse species to a "pre-development" stage is anticipated to take in excess of 20 years resulting in long-term reduction in available big game habitat.

Sodium wastewater ponds have been determined to be detrimental to waterfowl, neotropical birds, small mammals, and big game species using the areas. Toxicity and high saline levels prevent life forms from occupying areas covered by the ponds. Complete netting would not alleviate the problem of long-term soil sterility.

Sodium development is expected to increase air particulates, reduce productivity of desirable plants, and reduce visibility for avifauna. Cumulative impacts to vegetation and riparian habitats from sodium dust could have long-term adverse effects on wildlife and habitat.

Creation of new roads by ORV enthusiasts may continue to cause vegetation loss, erosion, and siltation to fisheries. Wildlife could be adversely affected on crucial winter ranges through displacement by

snowmobile activity. Designating ORV use areas may help reduce damage to soil and vegetation and reduce ORV disturbance in wildlife crucial habitats such as parturition areas, strutting grounds, and spawning habitats. Closure of some unimproved roads and trails should also benefit wildlife habitat.

Vegetation treatment would increase forage production (increase in forage density and diversity) in the long term for most wildlife species resulting in beneficial impacts. A short-term adverse impact could result immediately after treatment.

Sagebrush treatments identified in crucial deer and antelope winter ranges may be undesirable as it could convert shrub communities to early succession grass habitats. Vegetation treatment on sagebrush and saltbush areas may result in forage and cover loss for 20 years or more impacting wildlife species dependent on shrub communities. Sagebrush treatments could be conducted in elk winter habitats or in small parcels so that adverse impacts to antelope and deer would be minimized. However, impacts are not anticipated to be serious because treatment would not occur unless habitat values are improved.

Prescribed burns conducted during the fall or when there is low soil moisture commonly has adverse affects on regeneration and sprouting of desirable shrub species. This may result in habitat type conversion from shrub communities to grassland. Prescribed burns conducted to meet renewable resource objectives (i.e., mosaic pattern) could enhance values for wildlife, fisheries, and entire watersheds.

On identified crucial big game habitat where mountain shrub communities are identified for treatment, fall burns could have an adverse impact to these habitats due to low soil moisture causing scarification of the soil.

A short-term adverse impact would result immediately after burns through displacement, temporary loss of vegetation, loss of soils and decreased water quality, loss of nesting habitat, and some mortality.

Long-term benefits to wildlife could be increases in grass, forbs, shrubs, or aspen in winter and summer ranges. This would benefit most big game species and could improve water quality and quantity in the long run. Other long-term benefits include an increase in preferred forage species and parturition or fawning areas for wildlife.

A long-term delay in plant recovery is anticipated on habitats treated by fire where grazing is not restricted. Following the rest of treated areas, animals commonly concentrate in burn areas, resulting in reduced plant vigor, poor residual plant cover and forage. The impacts from this could reduce winter and spring survival of some juvenile and adult big game animals.

Stipulations for visual distance disturbances could restrict construction and maintenance of wildlife developments.

Watershed management actions proposed to protect watershed values would generally benefit wildlife and wildlife habitat.

Competition between wild horses and antelope or deer could occur with available surface water. Loss of spring locations or other water sources due to excessive trampling and social behavior by wild horses may adversely impact many wildlife species. There is direct competition between horses and elk for forage which could reduce forage available, especially on elk crucial winter ranges.

All actions taken to manage wild and scenic rivers would be beneficial to wildlife.

Animal damage control authorization could adversely impact some wildlife species. Non-target wildlife may be impacted through Animal Damage Control activities. Reduction of predator populations results in higher fawn survival and larger wildlife populations. This can have adverse effects on wildlife habitats and the viability of some big game populations. Human activities on crucial big game winter ranges during Animal Damage Control work could increase winter stress resulting in displacement and direct population mortality. This could be potentially significant especially during severe winters.

Calculations

Locatable Impacts

Quantifiable acres were determined by assessing the potential jade mining area, the potential zeolite minable area (as displayed on geological maps) and the potential gold extraction area (derived from historic gold mining activity and claims). Wildlife habitats overlying these areas were evaluated for displacement, habitat loss or adverse seasonal impacts to selected species or categories (e.g., big game, raptors, etc.). Based upon the impact of each alternative and variations between alternatives, a percentage of acres, nests, or other habitats identified would be adversely affected.

Coal Impacts

Impact assessment was based upon past and present surface mining activities and reclamation efforts of the Black Butte and Jim Bridger coal mines. With these real situations, several assumptions can be made. Stripmining an acreage will eliminate nearly all plant and animal species over the short term from these acres. Reclamation begins, perhaps 2 to 5 years following stripping. Seeding, mulching, and fertilizing the disturbed area has the short-term effect of a mixture of grass, forbs, and weeds. The vegetation and habitat development must go through several stages to become suitable for pre-existing plant and animal biodiversity. It may take several centuries for a stripped area to again have all the plant and animal species which occurred here during pre-mining.

The restored stripmine will have low growing grass and forbs which may only be suitable for summer grazing by some big game species. Taller shrubs which protrude above winter snow are of primary importance to sustaining big game on winter ranges. The establishment and growth of shrubs to this height is assumed to exceed 20 years after mining ceases, therefore, stripmined areas would be unsuitable as crucial big game habitat for the long term.

Analysis for raptor nest loss considered what has happened to birds of prey on these two mine sites since 1978 and the cause and effect relationship. Pre mined raptor habitats had tall escarpments with suitable surrounding habitat to support a suitable prey base for the species of bird occupying the area. During and following mining, the tall escarpments still remained, but the prey base habitat was removed and nesting raptors left the area. Most of the mature sagebrush providing passerine bird habitat was removed, thereby altering desirable prairie falcon prey habitat. Richardson's ground squirrels are slow coming back to reclaimed areas and this dramatically affects desirability of the area by ferruginous hawks and their successful nesting.

APPENDIX 14-1

BIOLOGICAL ASSESSMENT

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BIOLOGICAL ASSESSMENT

for
Green River Resource Area
Resource Management Plan

Bureau of Land Management
Rock Springs District

July 1995

BIOLOGICAL ASSESSMENT

From 1989 through 1993, the Green River Resource Area staff specialists have been preparing a Resource Management Plan (RMP) which proposes future management on public lands in Southwest Wyoming. The project area includes 3.7 million acres of solid-block and intermingled public lands within a total land area of about 5 million acres. Resource activities discussed in the Plan include air, soil and water, cultural, fire, hazardous materials, lands and realty, livestock grazing, minerals management, off-road vehicles, recreation, timber, vegetation, watershed, wild horses, wildlife, and special management areas.

During the past several years, the U.S. Fish and Wildlife Service (USFWS) supplied lists of species to be considered while preparing the document. The present list was verified by phone consultation on May 17, 1993. Table 1 shows the plant and animal species which occur, may occur, or historically were found within the planning area.

General management prescriptions for each resource activity are provided in the Draft Environmental Impact Statement (DEIS) which was sent your agency under separate cover. You should refer to this document for specific resource management prescriptions under the preferred alternative (Volume 1, Chapter 2).

I. PROJECT DESCRIPTION

In 1988, the Green River Resource Area was directed to prepare a single planning document to combine Unit Resource Analysis and Management Framework Plan documents for the Big Sandy and Salt Wells Planning Units. A massive effort at resource data storage was undertaken to implement the Geographic Information System (GIS) on the 5-million-acre planning area. The new RMP incorporated current laws and regulations and public land resource initiatives to guide long-range planning decisions. As a result of this effort, several alternatives for resource management were considered.

In the DEIS, the Preferred alternative (with minor modification) is the recommended direction the BLM and public land users (through letters and comments) wish to pursue (reference Vol. 1, Chapter 2 and Vol. 2, Chapter 5). Other alternatives considered were Alternative A (also called the "no-action" alternative), Alternative B (the commodity alternative), and Alternative C (the protection alternative).

II. CURRENT STATUS AND HABITAT USE BY THREATENED AND ENDANGERED SPECIES

Eight federally listed endangered wildlife species inhabit or may have inhabited the resource area. Endangered species include the black-footed ferret, bald eagle, peregrine falcon, whooping crane, Colorado squawfish, humpback chub, razorback sucker, and the bonytail chub.

Surveys have been conducted for the Colorado River squawfish and humpback chub, but they are now considered extirpated in southwest Wyoming. We will only discuss effects caused by water depletion for these species as the Green River Resource Area has not been identified as critical habitat by the U.S. Fish and Wildlife Service.

A. Listed Species

The following information is taken from the Green River Management Situation Analysis (MSA). Numerous studies and surveys, and a variety of reference material were used in preparing information discussed in the MSA. The volume of printed material requires condensation for discussion in this analysis. The conflict analysis following the discussion of each species may be viewed as an analysis of anticipated or potential impacts.

1. Black-Footed Ferret (*Mustela nigripes*)

Population Distribution

Populations of black-footed ferrets (if any) are undetermined in the resource area. Historical documentation exists of the presence of ferrets to as late as 1963 when a ferret and kits were commonly seen by several persons in the southwest part of Eden Valley. Other areas where ferrets are presumed to have occurred are Sublette Flats, Seedskaadee National Wildlife Refuge, and the Red Desert.

Dr. Tim Clark has been one of the primary researchers of ferrets and their historical presence in Wyoming until and since the 1981 discovery of a colony at Meeteetse, Wyoming. His information on historical sightings was used extensively in this analysis. Each year ferrets are reported and the BLM or the Wyoming Game and Fish Department (WGFD) follows up with field surveys and personal interviews. The U.S. Fish and Wildlife Service has conducted some surveys and prairie dog colony inventories in the resource area since 1981. Surveys and inventories of prairie dogs have been conducted in the resource area since 1975 with nearly 60% of the area completed. Some of the surveys were contracted by the BLM, some were performed by BLM biologists and summer temporaries, and others were done by other agencies. We also receive information as a result of surveys required to clear land use actions under Section 7 of the Endangered Species Act.

From 1851, when the first ferret was described by Audubon, to 1976, 145 sightings of at least 167 animals were evaluated as valid sightings or likely so. Of the 145 reports, 93 were classified as positive, 37 probable, and 15 possible. The diversity and competence of respondents lends credence to their sightings; such evidence overwhelmingly indicates that ferrets may still exist in Wyoming and possibly this resource area. Remains of 23 ferrets from museum and private collections were located. Of the 145 different animals reported, 35 or 36 were of dead animals (10 or 11 killed in coyote traps, two in badger traps, one was shot, one a road kill, and one drowned in a stock tank). Additional mortality was attributed to poisoning for coyotes by several respondents. Young ferrets were reported in three instances. Table 2 lists sightings in or very near the resource area boundary and include additional sightings for 1975 through 1992.

Habitat Requirements

Potential areas of ferret habitat can be delineated due to their association with prairie dogs and prairie dog colonies although their diet may also contain some other small mammals and birds. Based upon archaeological and historical evidence, researchers have concluded that the black-footed ferret has never been very abundant. Primarily nocturnal, ferrets spend much of their time below ground and are rarely seen during daylight hours. This behavior is probably one of the reasons for so few sightings recorded in this planning area.

and elsewhere. An experimental population is anticipated for reintroduction in prairie dog habitats in Colorado adjacent to Hiawatha and the Vermillion Creek area.

Conflicts

Past animal damage control programs probably have had the greatest impact on ferret mortality.

From the 1920s until the mid-1970s, predator control through trapping and poisoning resulted in some black-footed ferret mortality (67% of positive ferret reports). Secondary poisoning of ferrets is also known to have occurred from highly toxic rodenticides (or predicides) used in prairie dog eradication programs. Loss of ferret prey and secondary poisoning of ferrets must be considered in animal damage control plans and activities.

Varmint hunters seek out prairie dog colonies for target shooting. Because few people can distinguish between a ferret, a burrowing owl, or a prairie dog peering over the prairie dog mound, it is to be expected that some black-footed ferrets have been killed accidentally by target shooters. Some coyote trapping activities have also resulted in ferret mortality during the past. These activities need some measure of control, and agencies need to initiate a proactive campaign to educate hunters and trappers about ferret identification and their habits and avoidance programs.

Land use activities such as rights-of-ways, energy developments, Special Land Use and Free Use permits, urban expansion, mineral extraction, and grazing projects can reduce or fragment ferret habitat and therefore require inventory and clearances. Habitat losses have been minimized through analysis, planning, and coordination.

Status of the black-footed ferret is unlikely to change over the analysis period as either a result of implementation of the preferred alternative or ferret reintroductions. Ferret populations are expected to remain low despite BLM efforts to minimize activities which could impact prairie dog colonies.

2. Bald Eagle (*Haliaeetus leucocephalus*)

Population Distribution

Bald eagles are classed as partly migratory. Bald eagles from the northern states and Canada tend to migrate greater distances than do local eagles. About the second week of October, bald eagles begin arriving on the Green River. This coincides with the kokanee salmon and brown trout run which is probably a primary source of autumn food. By Thanksgiving, bald eagles can be found on the Big Sandy and Little Sandy rivers, in Eden Valley, and along the Black's Fork and Henry's Fork rivers. The bald eagle is a winter resident along the Green River and Flaming Gorge Reservoir. Few studies have been conducted to locate winter roosts in the resource area; however, aspen and conifers along the headwaters of Currant Creek, conifers on Black Mountain, and other areas may be suitable for roosting. A known roost and activity area is in the Henry's Fork at the confluence of Antelope Creek. Primarily on private land, as many as 11 bald eagles may be seen here in mid-winter.

Habitat Requirements

This bird is often called the fish eagle and with some justification. Its main food item is fish, it nests in association with water, and it most often winters where fish are available. Additional food items include ducks, coots, rabbits, carrion (particularly road kills), and small rodents. Bald eagles are found primarily along rivers and inland lakes where their nests are usually located in large coniferous or deciduous trees. In the Great Basin physiographic region which

describes the resource area, streams and rivers with trees, especially conifers, are not common. There are potential nesting opportunities along the Green River drainage, the Henry's Fork River, and other waterways occupied by nesting colonies of great-blue heron. The pioneering trend for bald eagle nesting began in the upper Green River system, and activity moved slowly downstream to an island nest outside the resource area in 1985. Currently, the only known active bald eagle nesting sites are on the Green River above the Big Sandy confluence on Seedskaadee National Wildlife Refuge and just outside the Resource Area on the upper Green River. In 1991, the Seedskaadee pair of eagles moved out of the heron rookery to another island farther downstream within the refuge.

The bald eagle is fully protected by the Endangered Species Act of 1973 (*Federal Register* 43:6230-6233, February 14, 1978), the Bald and Golden Eagle Act, the Migratory Bird Treaties, and Wyoming Game and Fish Department laws.

Conflicts

The accelerated decline in numbers of the species since World War II has been attributed to several factors. Both the peregrine falcon and the bald eagle have suffered reproductive problems due to organochloride pesticide poisoning. Shooting is another significant factor, causing an estimated mortality of 75% of the fledglings in some areas. Electrocutation, while still a problem, has been reduced through alteration and redesign of many power transmission systems.

The primary factor influencing the bald eagle's habitation of the area is available undisturbed habitat and spatial consideration from human activities. Great blue heron nests in cottonwoods on the Green River can provide suitable nesting for bald eagles over the short term. The trend in cottonwood replacement is toward few or no seedlings reaching maturity. Several reasons for this habitat alteration include fall and winter cattle grazing, low incidence of flooding, and high populations of beaver. Without periodic flooding or hand planting of seedlings and positive livestock control, most perennial streams may be reduced to a grass, weed, and sedge riparian area within the next 30 to 50 years. The BLM does not manage most of the Green River and the only currently active nest sites within the Green River Resource Area are on Seedskaadee National Wildlife Refuge, administered by the U.S. Fish and Wildlife Service.

Raptors are especially susceptible to accidental poisoning through predator control programs. Poison baits set out to attract coyotes have caused the loss of at least 17 bald eagles in Wyoming during the period 1973-1991. Recent golden eagle losses have occurred in Wyoming and the resource area as a result of unauthorized poison baits placed on public and state lands. Bald eagles are also at risk to this type of mortality.

Available habitat is being impacted by greater year-long recreation and human disturbance. Oil and gas activity within the flood plain above Fontanelle could displace bald eagle use year-long. Current leasing stipulations provide seasonal habitat protection during exploration, but does not address gas field activity during production, maintenance, and operation, nor do they address cumulative impacts to raptors. Increasing use of the river from float-boaters, anglers, campers, and hunters reduces open space for birds of prey. Fall and winter fishing will increase as river habitat improves from silt load damage following drainage of Fontanelle Reservoir. Proposed introduction of steelhead trout will also increase winter recreational activity on the river; however, the steelhead (and kokanee) would be a source of food for wintering bald eagles.

There appears to be a subtle increase in wintering bald eagles within the resource area over the past 20 years. Activities associated with the Preferred Alternative should have little or no impact in altering the present status of the bald eagle.

3. American Peregrine Falcon (*Falco peregrinus*)

Population Distribution

Potential peregrine falcon nesting habitat exists in a variety of areas such as along the Sweetwater and Green rivers on cliffs, in canyonlands north of Reliance, and on Oregon Buttes, Black Rock, or Pine Butte. Peregrines could also inhabit Steamboat Mountain, canyons near LaBarge, and the cliffs of Canyon Creek. Sightings of peregrines in the resource area are rare and no active nests are currently known to exist here. In 1976, a peregrine was observed by a BLM contract survey crew on Oregon Buttes. A 1977 sighting on the Green River above the golf course was verified and that year a young peregrine was seen on Pine Butte by a raptor researcher. A 1979 sighting on the Sweetwater River gave hope of finding an aerie on uninventoried cliffs there. That inventory has not yet been performed. Migrating peregrines are often sighted along the Green River during spring and fall.

Peregrine hacking into the Greater Yellowstone Ecosystem has led to somewhat unknown success with some birds returning to the Greater Yellowstone Ecosystem. Many peregrines are showing up outside the Greater Yellowstone Ecosystem and may be the result of this extensive planting effort. Currently, hack sites just outside the resource area are being tended in hopes of establishing peregrines in southwest Wyoming.

Habitat Requirements

The presence of a nesting cliff is a preferred habitat component, with falcons at times nesting on slopes, river cut-banks, tall buildings, and occasionally on sand dunes. Principal food items of peregrines are passerine birds (perching birds), shorebirds, and waterfowl. They are successfully habituating metropolitan areas on high-rise buildings, although mortality is high among young birds.

Management efforts to improve the number of peregrines and reduce mortality would include: (1) Education of public land users and school groups concerning the biological role of peregrines and other raptors in our natural ecosystem, (2) Identified peregrine aeries would be given total protection and potentially suitable habitat would be given status preventing its alteration or disposal, and (3) Suitable hack sites would be identified and the Bureau would cooperate in establishing peregrines in these areas.

Conflicts

The apparent reason for the precipitous decline of the species in the United States, beginning in 1947, was the loss in reproduction due to sublethal chronic poisoning from organic chlorine pesticides. This poisoning is manifested in the thinning of egg shells which results in accidental breakage. Often termed the world's "fastest" bird, the peregrine is highly sought by falconers. The high prices paid for eggs and young have aggravated the precarious position of the bird and have greatly complicated management. Misguided efforts by stockmen to "control" predators have also been a problem. In 1971 or 1972, a pair of nesting peregrines along the Green River were reported to have been shot on their nest. Mortality and poor nest establishment are related to one or more of the following impacts: habitat encroachment or fragmentation, wetlands loss, riparian habitat degradation and loss, agriculture, pesticides and hazardous wastes,

recreation (e.g., ORV, float-boating, etc.), shooting, and drought. Special features management (cliff, riparian, and wetland habitats) should improve prey base and open space for this species. No adverse impact to this species is anticipated from implementation of this RMP's Preferred Alternative.

4. Whooping Crane (*Grus americana* Lin.)

Population Distribution

The bird was fairly abundant prior to 1800 and was found distributed in wetlands across North America. Market hunting in the 1800s and into the early 1900s led to a rapid decline in whooping crane populations until the species was nearly extirpated in the 1940s. The remaining flock bred in Alberta, Canada at Wood Buffalo Park, migrated across the Great Plains, and wintered in Aransas National Wildlife Refuge, Texas.

Captive breeding programs, cross-fostering, and translocation have increased whooping crane numbers to over 100. The Wyoming Game and Fish Department has been monitoring whooping crane movement and habitat use in Wyoming since 1982. Following the 1988 breeding season, monitoring efforts were greatly reduced due in part to lack of success with the attempt to establish breeding pairs at Grays Lake National Wildlife Refuge, Idaho. The Grays Lake program has presently abandoned the whooping crane program as other options are being examined.

As of March 21, 1990, only 13 whooping cranes were known to be alive and free-roaming in the Grays Lake flock. Several of these found their way into the Green River Resource Area over the past five or six years. In 1986, two Colorado State University summer wildlife volunteers working for BLM in the Farson area observed a lone whooper on several occasions. During 1987 and 1988, a pair did spend part of the summers in Farson grain fields and wetlands. Personnel at Seedskaadee National Wildlife Refuge also reported lone migrating whoopers visiting the Green River over the past four years.

Habitat Requirements

Whooping cranes select muskeg, prairie potholes, and marshes. Their nest is a flat mound in the marsh usually containing two buff, blotched eggs. Food habits are similar to the resident sandhill crane (*Urus canadensis*). Though largely vegetarian, they eat some animal food. Insects, snails, frogs, mice, lizards, snakes, and fish have been recorded in their diet. Besides eating seeds of grains and wild plants, they consume herbaceous foliage, underground stems, tubers, and roots.

The whooping crane is fully protected under the Endangered Species Act of 1973, the Migratory Bird Treaties, and Wyoming Game and Fish Department laws.

Conflicts

The greatest mortality among whoopers is collision with powerlines, cables, and fences along streams, wetlands, and marshes. These artificial intrusions on the Green River, Henry's Fork, Flaming Gorge, and in the Eden/Farson area should be considered for modification or removal. New rights-of-way grants presently consider the impacts to large migrating birds and require appropriate mitigation.

Major facilities and activities which conflict with whooping crane habitat include: powerlines/river cables, riparian fences, recreation (e.g., ORVS, camping, etc.), shooting, wetlands conversion, riparian habitat losses, agriculture, and water diversions. Proactive wetland and riparian management discussed in the plan should

provide positive benefits and should not adversely affect present status of this species. Better planning of highlines and potential flight obstacles now and in the future will reduce accidental mortality.

5. Bonytail Chub (*Gila robusta elegans*)

Distribution

This native nongame fish was once abundant throughout the Colorado River System, based on reports at the turn of the century (Cope 1872; Cope and Yarrow 1975; Kirsch 1889; Jordan and Evermann 1896). They were apparently found in suitable habitats in the Green River and tributaries all through western Wyoming. As early as 1960, bonytail chub were reported in decreasing numbers in the Lower Basin. The species was common in the Green River within Dinosaur National Monument from 1964 to 1966, but less common from 1968 to 1971. Presently the most abundant populations are in the Grays Canyon of the Green River in Utah.

Habitat Requirements

Bonytail chub apparently occupy deep, swift, rock-sand areas in main channels of the Green River. Water temperatures in desirable habitat are important in that cold water discharges from dams displaces them downstream until water temperatures sufficiently increase. Lateral and in-stream movement studies of this species indicated they moved very little from their release point over a sixty-day period in summer. There is some vertical and lateral movement in the stream between daylight hours and dark.

Conflicts

Impacts to the bonytail chub are about the same as for the other rare Colorado River fishes. Water depletions, water diversions, reduced stream flows, and reduced water quality affect the potential to bring this species back from the brink of extinction. Low numbers of bonytail chub and the absence of natural reproduction strongly suggest a trend toward extinction. Actions taken as described in Section IV, page 21 of this document may slow the rate of water depletions to the Green River System and to this species' habitat.

6. Colorado Squawfish (*Ptychocheilus lucius*)

Population Distribution

The Colorado squawfish is found in the Colorado River drainage. Before construction of Flaming Gorge Dam, this fish lived in the Green River of Wyoming. Use of "rotenone" in removing undesirable fish species prior to closure of gates on Flaming Gorge probably extirpated it from Wyoming's portion of the Green River. A recent discovery of squawfish near Baggs, Wyoming reestablishes the fish as occurring in Wyoming.

Habitat Requirements

Colorado squawfish are generally found in the large rivers of the Colorado system, although they have been found in medium-sized tributaries. They are the largest American minnow, reaching 80 pounds in the lower Colorado River. Young squawfish prefer slow backwater areas. Adults use a variety of habitats but are specialized for habituating fast-moving, silty, canyon waters. Spawning occurs in summer (July, August) at water temperatures of about 20° C. The preferred spawning habitat is probably over gravel in riffles. The Colorado squawfish feeds on crustaceans and small insect larvae when young. As squawfish become larger (over 8 inches (200 mm)), they become carnivorous. Although known from the resource area in the first half of the century, alteration of the Green River through

changes in flow regimes and dam building has apparently eradicated this species from southwest Wyoming waters. As suitable habitat for this species no longer exists in the Green River of Wyoming, it may never again reoccupy historic habitat.

Conflicts

Environmental problems as a result of public and private land development and construction activities leading to the probable extinction of Colorado River squawfish and their spawning in the Green River Resource Area include: dam construction, river impoundment, diversions/augmentations, water pollution, hazardous wastes, chemical spills, irrigation, and agriculture. Refer to Section IV, page 21 of this document dealing with mitigation for Green River threatened and endangered fish species.

7. Humpback Chub (*Gila cypha*)

Population Distribution

This fish is endemic to the Colorado River basin, but found only in fairly restricted areas. One of its populations occurred in the Green River of Utah and Wyoming, but the species is probably extinct since the development of Flaming Gorge Dam. It is known to have occurred in the Green River and its tributaries after the turn of the century. Specimens of this fish were taken on the Black's Fork and Bitter Creek prior to major dam construction in southwest Wyoming.

Habitat Requirements

The humpback chub is generally found in steep gradient canyons in deep, swift water with a rocky substrate. Little is known about its life history. Humpback chub have been observed feeding on the surface, and have also been caught on hook and line. Humpback chub spawn in early summer, and young prefer quiet backwater areas during their first year of life. Adults may reach 10 to 16 inches (250 mm) in length.

Conflicts

Conflicts with continued existence of this fish species is the same as for the Colorado River squawfish and other sensitive fish species. Reference Section IV, page 21 of this assessment for a discussion on Green River impacts and appropriate mitigation.

8. Razorback Sucker (*Xyrauchin texanus*)

Population Distribution

Originally found as far up the Green River as the present location of the City of Green River. In unimpounded waters, the razorback is limited to Upper Basin rivers, especially the Green, Yampa, and mainstream of the Colorado. The largest population, estimated at about 1,000 adults, lives in the Green River near Jensen, Utah. This species has not been documented in Wyoming in over 30 years.

Habitat Requirements

The fish thrives in torrential river rapids and swift water. This fish is one of the largest suckers in North America, weighing as much as 12 pounds. They have spawned in backwater flooded gravel pits in Colorado and up drainage ditches and culverts. The razorback was so common at one time before the turn of the century that a commercial fishery exploited this species for food. For some unexplained reason, populations of this fish have not been documented to successfully spawn in recent years.

Conflicts

Elimination of clear, swift whitewater areas in Wyoming's portion of the Green River has removed the potential habitat suitable for this species. Competition with non-native fish species is also given as a reason for population declines within suitable habitat. The razorback hybridizes with other sucker species in the Upper Colorado River Basin. Behnke and Benson (1980) summarized possible reasons for the decline as dams, impoundments, and land and water use practices. These human-made features drastically modified natural flows and river channel characteristics. They blocked spawning migrations and changed temperatures. Channelization, diversions, dams, and water use patterns in the main-stem and tributary streams have reduced or nearly eliminated embankments, backwaters, and off-stream impoundments needed for successful spawning. The RMP's Preferred Alternative should have no effect on status of the razorback sucker over the 20 year life of the plan.

B. Proposed Species

Small Rockcress (*Arabis pusilla*)

Small rockcress is a Category 1 Candidate species, and has been proposed for Federal listing as either Threatened or Endangered. The Nature Conservancy ranks this plant as G1S1, extremely vulnerable to extinction globally and extremely vulnerable to extirpation statewide. Small rockcress is known from only one location in the southern Wind River Range in Fremont County, Wyoming. The single known population occurs on about 6 acres of BLM-managed public land near Pine Creek.

Small rockcress is found in crevices and on sparsely vegetated, very coarse soil in granite-pegmatite outcrops surrounded by sagebrush grassland. Most granite-pegmatite outcrops in the South Pass area were surveyed in 1986 by the Nature Conservancy-Wyoming Natural Diversity Database (Mariott 1988). Other suitable habitats along the Lander Cutoff were spot-checked. No other populations were located during that survey. More plants were found in the immediate area during a later survey conducted for the U.S. Fish and Wildlife Service (Dorn 1990). The population size is estimated at 600 individuals. Motorized recreational activity and livestock grazing in the area have been identified as threats to the population. The extremely restricted geographic range of this species makes it highly vulnerable to extinction.

A Habitat Management Plan has been developed for the protection of the small rockcress and its habitat. Protective management actions are scheduled to begin in 1994. These actions include annual monitoring, road closure and fencing to protect habitat from livestock and motorized vehicular damage. Seeds from *Arabis pusilla* will be collected and deposited at the Center for Plant Conservation (CPC) at the Denver Botanic Gardens. Attempts will be made by the CPC to propagate the species for plant studies and for emergency stock in the event of catastrophic destruction of the population.

General habitat management for Threatened and Endangered and Candidate Status plants is discussed in the Preferred Alternative.

C. Category 2 Candidate Species

1. Lynx (*Felis lynx*)

The last known lynx in the resource area was taken by a hunter in the 1960s just north of Big Sandy Reservoir. This area is out of its "typical" habitat, although the cat probably came from the Wind River Mountains or foothills. Cat tracks are often seen in the Prospect Mountains and along the Wind River Mountains but these

have always identified as cougar or bobcat. Commercial timber removal could remove some valuable cover, but size of sale blocks and select cutting practices should reduce impacts to this species. Modest restrictions in the way animal damage control is conducted will help reduce incidental take of this species.

2. North American Wolverine (*Gulo gulo luscus*)

No sightings of wolverine nor their scat or tracks have been made in or adjacent to the resource area in over 30 years. They are not expected to naturally occur in the resource area within the life of this RMP. The foothills of the Wind River Mountains, the Prospect Mountains, and lands adjacent to the high Uinta Mountains provide some habitat suitable for wolverine. They may presently occupy habitats in the Wyoming Range, outside the resource area. Animal damage control activities and human encroachment on undeveloped forested lands are the primary conflicts with this species.

3. Pygmy Rabbit (*Sylvilagus idahoensis*)

The Wyoming population of this small rabbit was first described by Tom Campbell of Biota Research in a paper of 1980. It was thought to occur primarily within sandy hummock habitats south and west of Little America. The Nature Conservancy has continued inventory of this species in the resource area during recent years and conclude the population is interspersed within desert cottontail (*S. auduboni*) populations. Pygmy rabbits are found over a broader area than first thought, now extending into the Red Desert and south into South Baxter Basin. With dramatic cyclic trends in rabbit species, the long-term effect of mineral development, road development, and other factors of habitat loss cannot be realistically assessed. Hunting is not considered to be a factor in long-term population alteration. Some discussion of management direction toward commodity development discussed in the Preferred Alternative may adversely impact habitat for this species.

4. Black Tern (*Chlidonias niger*)

This species is apparently migrant through the resource area although sightings are rare. With few acres of public land wetlands available in the resource area, suitable habitat for the black tern is limited. The policy of improving riparian habitats within ten years should provide enhanced habitat for this species.

5. Ferruginous Hawk (*Buteo regalis*)

Historic nesting habitat resurveys in recent years (1984-1989) show a general decline in the nesting success of these birds. This may, in part, be due to the prolonged drought and recent population declines of rodents and other small prey. An effort should be made to determine what specific factors are responsible for the decline in ferruginous hawk nesting activity and the management efforts required to reverse this trend. A more thorough inventory of the resource area in all habitat types will be necessary to identify ferruginous hawk nests and should be undertaken as a part of the Wildlife 2000 program. Current management direction and management practices, discussed in the Preferred Alternative and Alternative C of the plan, are protecting this species seasonally during nesting and providing some measure of nesting habitat protection.

6. Loggerhead Shrike (*Lanius ludivicianus*)

Older surveys performed in the resource area (1972-1979) had shown that the bird commonly nested here, primarily in greasewood

habitats. Habitat components found in nesting areas were greasewood, cactus, and sometimes barbed-wire fences. Generally, there appears to be a decline in the local populations over the past 20 years. Locating nests is becoming difficult and sightings of loggerhead shrike are diminishing. Again, this may be due to the recent long-term drought which occurred over the resource area and reduced numbers of insects available as prey. Proposed vegetative treatments are not planned in low-fuel greasewood habitats and should have little effect on this species. Mineral developments requiring surface disturbance will require a field check for this species prior to allowing the dirt work. Some management actions directed at commodity development within the Preferred Alternative could adversely affect habitat for this species.

7. Long-Billed Curlew (*Numenius americanus*)

These birds have historically never been common in the project area. Some nesting was recorded in the mid-1970s on the Henry's Fork and at Maggie Spring on Mellor Mountain until heavy livestock grazing and the drought impacted their habitat. Some observations are noted annually but the frequency is less each year. A pair were seen on upper Bitter Creek in 1993, but no nesting was recorded. In western Wyoming, they are most commonly seen during spring migration and casually during late summer. Long-billed curlews are known to occupy habitats on prairie dog colonies in the tall grass prairie (Nebraska). Proposed management under the Preferred Alternative should promote habitat improvement of wetlands and riparian areas for this wildlife species.

8. Mountain Plover (*Charadrius montanus*)

Taxonomic changes recently placed this bird with other plovers and killdeer. The bird is of bland coloration about the size of a killdeer without the striking white marking on the head and breast. Not much is known about the occurrence of this bird in the resource area, although it is known to have occurred in the Henry's Fork area as recently as 1984. Wetland and riparian habitat loss can be associated with apparent declines of long-billed curlew in the resource area. Accidental shooting has not been documented as a problem here. Adoption of the Preferred Alternative to the plan should have no adverse effect on status of this species.

9. Northern Goshawk (*Accipiter gentilis*)

This bird has a tough time finding suitable nesting within the planning area because of limited forest habitat. Only two known active nests were known within the resource area. These were located in mixed conifer-aspen habitats during the late 1970s. No recent nesting activity in the resource area has been recorded for the Northern goshawk. Woodcutting, mineral extraction, and recreation may impact suitable and successful nesting. Disturbance areas should be monitored for the presence of this bird prior to permitting disruptive or destructive activities. Some actions (primarily mineral exploration and timber harvest) discussed in the Preferred Alternative may adversely impact habitat for suitable occupancy by this species.

10. Western Snowy Plover (*Charadrius alexandrinus*)

This bird was found on many desert pavement areas of rounded cobble during the early and mid-1970s. Nesting occurred at Lombard Buttes, northwest of Gasson Bridge, Buffalo Hump, and a few other areas. No recent nesting in the resource area has been recorded.

There is no apparent reason for decline of this species in the resource area as most suitable habitats remain unaltered. Occupied habitats in pristine gravel flats are presently not known to be used by these birds. Implementation of the Preferred Alternative should have little effect on status of this species if habitats are cleared prior to permitting land use activities. Since this desert pavement and cobble habitat is widely dispersed and relatively uncommon, these areas could easily be avoided by surface disturbance activities.

11. White-Faced Ibis (*Plegadis chihi*)

These birds are commonly seen in the resource area spring through fall. A large nesting colony once used the Old Eden Reservoir slough annually until drought conditions began in 1986. Loss of this water source and loss of suitable habitat at Old Eden Reservoir slough since then, has resulted in no known nesting by the species at this location. The prolonged drought may result in losing birds aware of this nesting site and could require recolonization by pioneering birds.

Some nesting and staging by ibis has been noted at the Tenmile Marsh wetland near Point-Of-Rocks. Sightings of white-faced ibis were common in wetland habitats of the Sand Dunes, the Black Rock Creek, and along streams in the resource area prior to the drought.

Maintaining some residual cover along streams and standing waters is necessary for nesting of the white-faced ibis. Fox and raccoon populations may be predatory on ibis nesting activity on waterways and wetlands. Management prescriptions discussed in the Preferred Alternative and Alternative C would aid in improving and maintaining residual nesting and escape cover, maintaining healthy riparian habitats, and helping maintain flooded areas within suitable nesting habitat.

12. Colorado River Cutthroat Trout (*Oncorhynchus clarki pleuriticus*)

This fish is native to the Colorado River system. Within the Green River drainage of Wyoming are found several "good" representative populations.

Colorado River cutthroat trout evolved in isolation from rainbow and other trout. Native cutthroat trout rapidly disappeared from the main streams of the upper Green and upper Colorado rivers and tributaries after nonnative trout were introduced. This candidate 2 cutthroat trout species is only slightly hybridized and occurs in severely degraded streams in southwestern Wyoming. Within the last 20 years, they were known from waters of Red Creek, Trout Creek, and Currant Creek. These streams are characterized as having submarginal trout habitat as a result of heavy livestock grazing and water diversions for irrigation.

The most significant habitat feature in small and moderate-sized streams are undercut banks, which in turn depend on extensive vegetative cover of the exposed bank. Livestock overgrazing and trampling present the greatest threat to the integrity of headwater stream habitat quality in the resource area as well as throughout the range of this species. Management of the Currant Creek watershed and stream is designed specifically to maintain and enhance habitat for this species.

This fish is a State of Wyoming "sensitive" species and it has been recommended for "threatened" status by the U.S. Department of the Interior. It is currently classed as a category 2 Federal candidate species. Management actions discussed in Alternative C and the Preferred Alternative should maintain and enhance habitat for this species eventually leading to a downlisting of status.

13. Flannemouth Sucker (*Catostomus latipinnis*)

The species selects river runs, shorelines, eddies, and pools of main river systems. During the 1970s and early 1980s, they migrated up the Green River from Flaming Gorge Reservoir in large numbers to spawn in the Big Sandy River, Slate Creek, and even into Alkali Creek. Spawning fish were usually 12-16 inches in length and averaged about one pound in weight. They provided a good forage base for great-blue herons which nested on Seedskaadee and the Green River along with mink and other fish predators. The last known spawning run of significance was 1985, with few fish spawning up the Big Sandy River in 1992 and 1993. Improved livestock grazing management on spawning streams and implementation of the Preferred Alternative or Alternative C should benefit habitat for the flannemouth sucker.

14. Leatherside Chub (*Gila copei*)

The leatherside chub is an "introduced" species into the Green River system and a native of Bonneville Basin streams. They are found in pools and riffles of cold to cool creeks and rivers in moderate currents. Present status of this chub in rivers and streams of the resource area is unknown.

Mitigation for Colorado River fish habitat water depletions as discussed in Section IV, page 21 of this document should help reduce habitat loss for this fish species.

15. Roundtail Chub (*Gila robusta robusta*)

This large minnow grows up to 17 inches in length and is native to the Green River and its tributaries. As with most other chubs and suckers native to this area, it is well adapted to strong river currents. Habitat consists of river bottoms with boulders and overhanging cliffs, numerous riffles, and shallow runs. The fish was relatively common in much of the Green River drainage up to the 1960s when populations gradually declined. They were rated as "abundant" in Burnt Lake as late as 1970. Anything the BLM proposes as benefitting other Colorado River fish species will benefit the roundtail chub. If proposals for riparian and stream habitat enhancement measures are implemented in the Preferred Alternative in the DEIS, we could expect improved habitat for this fish species.

D. Threatened, Endangered, Candidate, and Sensitive Plant Species

Fifteen plants are discussed under the Threatened and Endangered and Candidate Plant Species section of the Management Situation Analysis (MSA) to the RMP. Table 3 describes the Candidate species and their classification.

The Bureau of Land Management is mandated by law and policy to protect and manage Threatened, Endangered, Candidate, and Sensitive plant species and their habitat identified by the U.S. Fish and Wildlife Service. BLM is also required to protect and manage for Sensitive species jointly identified and agreed to with the appropriate state agency. The State of Wyoming does not have an official list of Sensitive, Threatened, or Endangered plant species. Currently, a single plant species, *Spiranthes diluvialis*, has been listed as Threatened in Wyoming; none as Endangered. Several other species occurring within Wyoming are being considered under formal listing procedures. State and federal agencies have historically given these species special consideration until their status is fully assessed.

The BLM provides funds for approximately two status surveys to be conducted annually for federally listed species occurring on the Rock Springs District. Approximately 1/4 of the known Candidate species in the Green River Resource Area have been surveyed to date. Status surveys for three species (*Townsendia microcephala*, *Thelesperma catespitosum*, and *Lesquerella macrocarpa*) were completed in the summer of 1994.

Complete floristic inventories are currently being conducted on a large scale in the Bureau; information available on each species varies as do potential threats and opportunities for management and protection. A floristic survey is being conducted in the Rock Springs District from 1994 to 1996. Site specific and general inventories have been conducted for some species; however, areas inventoried, but having no candidate plants, were not mapped and/or the information was never placed in reports that could be referenced. Approximately half of the known Candidate species in the Green River Resource Area have been surveyed to date. Permanent transects have been established and baseline information gathered for these species.

Monitoring efforts for federally listed Candidate species in the Rock Springs District have been sporadic in the past. Establishment of new monitoring programs for those species currently lacking them, and the continuation of established monitoring efforts is a priority of the Botany program in the District. These results will provide managers with information regarding population dynamics and potential threats.

Of the 15 known Candidate species in the Green River Resource Area, 11 are currently classified by the U.S. Fish and Wildlife Service as Category 2 under review for listing as Endangered or Threatened. One, the small rockcress (*Arabis pusilla*) is Category 1, proposed for listing as Threatened or Endangered, and three are classified as Category 3c.

The following information regarding the fifteen individual species is a compilation of information prepared by the Wyoming Natural Diversity Database (WNDDDB) (Marriott 1988) for the BLM, individual status survey reports prepared by WNDDDB under contract with the BLM, subsequent unpublished field reports to the BLM by the WNDDDB, and information provided by the U.S. Fish and Wildlife Service.

1. Meadow Pussytoes (*Antennaria arcuata*)

Meadow pussytoes is a Category 2 Candidate under review for Federal listing as either Threatened or Endangered. The Nature Conservancy ranks this plant as G2S2, very vulnerable to extinction globally and very vulnerable to extirpation statewide, due to its restricted range. *Antennaria arcuata* has been found in Idaho (one site in Blaine County near Carey) and Nevada (two sites in Elko County). Twenty sites are known from Wyoming, all in Fremont County. Most known locations are east and southeast of Atlantic City, while two occurrences are in the Granite Mountains northwest of Jeffrey City. Two populations are found on public land southwest of South Pass City. One population is found along Fish Creek approximately 1 mile west of Highway 28; the other is located about 1.5 miles east of Highway 28 on Pine Creek. Populations of meadow pussytoes at these sites are small compared to those near Atlantic City and in the Granite Mountains. A population adjacent to Long Slough, south-southeast of Atlantic City, may extend onto the Green River Resource Area.

Meadow pussytoes is typically found in wet meadows surrounded by sagebrush grassland. The plants occur on the drier margins of "hummocky" meadows. On more level sites with bare soil, the plants occasionally form vegetative mats. Potential habitat

in the area of Atlantic City and South Pass City has been adequately inventoried, and additional survey is not a high priority.

Populations of meadow pussytoes range in size from several hundred to several thousand plants. It is unknown whether the species is increasing, declining, or remaining stable.

2. William's Rockcress (*Arabis williamsii*)

William's rockcress is a Category 3C Candidate under review for Federal listing as Threatened or Endangered. The Nature Conservancy ranks this plant as G3S3, vulnerable to extinction globally and vulnerable to extirpation statewide. William's rockcress is endemic to Wyoming, and is known from 26 different locations. Populations are found in the southeast Absaroka Mountains, the north and south ends of the Wind River Range, and the east flank of the Wyoming Range west of Big Piney.

William's rockcress occurs on public land just north of Wyoming Highway 28 in the vicinity of Willow and West Willow Creek. The site just west of West Willow Creek is the type locality for the species. Habitat consists of coarse, gravelly to rocky soil; often on relatively bare ground including rodent mounds, near rocks, and other somewhat disturbed sites associated with sagebrush grassland. Some unsurveyed potential habitat remains in the southern Wind River Range, but most suitable habitat has been surveyed. Additional populations may be discovered along the east side of the Wyoming Range and the west flank of the Wind River Range.

3. Mystery Wormwood (*Artemisia biennis* var. *diffusa*)

Mystery wormwood is a Category 2 Candidate under review for Federal listing as Threatened or Endangered. The Nature Conservancy ranks this plant variety as G5T1Q/S1. Although this species is secure globally, this particular subspecies, or variety, is extremely rare and vulnerable to extinction. Taxonomically, there is still a question regarding its validity as a variety. Very little is known about this species.

The mystery wormwood was discovered growing in a seasonal alkali playa northeast of Rock Springs. It is endemic to the Point of Rocks, Wyoming, area. This population was last observed in 1980. A subsequent search in 1984 could not relocate these plants.

4. Precocious Milkvetch (*Astragalus proimanthus*)

Precocious milkvetch is a Category 2 Candidate under review for Federal listing as Threatened or Endangered. The Nature Conservancy ranks this plant as G1S1, extremely vulnerable to extinction globally and extremely vulnerable to extirpation statewide. This legume is known only from four locations in the vicinity of McKinnon, in extreme southwestern Sweetwater County, Wyoming. *Astragalus proimanthus* is found in cushion plant communities in sagebrush grasslands on rocky clay (possibly calcareous) soils. Most of the known habitat for precocious milkvetch is on public lands.

A field survey conducted for the BLM by the Wyoming Natural Diversity Database in 1989 established permanent transects in four locations for population monitoring (with the recommendation that they be read every three years). Estimates of population size at that time ranged between 1,000 to 10,000 plants. Due to its very restricted geographic range, the precocious milkvetch is extremely vulnerable to extinction. The entire species occurs within an area of less than 10 square miles.

Roads, off-road vehicles, oil and gas exploration and development, range projects, and garbage dumps are threats to the precocious milkvetch. Several vehicle trails and two dumps (one recently reclaimed) are currently located near populations. The status survey results indicated that no surface development should be allowed in the population areas due to the extreme vulnerability of the species. However, no data are available on population trends.

Although no trend data are currently available, the populations do not appear very vigorous, especially the population around the reclaimed McKinnon dump. During the summer of 1993, BLM personnel noticed significant surface disturbances of a portion of the habitat due to motorized vehicles and livestock trailing. In 1994, the population suffered a loss of 12 percent. A Habitat Management Plan is currently being prepared by the BLM to provide management guidelines for the protection of this species. The proposed candidate plant ACEC would provide protective management designation for this species.

5. Ownbey's thistle (*Cirsium ownbeyi*)

Ownbey's thistle is a Category 2 Candidate under review for Federal listing as Threatened or Endangered. The Nature Conservancy ranks this species as G3S1, vulnerable to extinction globally and extremely vulnerable to extirpation statewide. This species is endemic to northwest Colorado, northeast Utah, and southwest Wyoming. It is known only from two sites in Wyoming.

In the Green River Resource Area, Ownbey's thistle has been found on the east side of the Flaming Gorge National Recreation Area, and along the Currant Creek drainage. Its habitat consists of steep, shale soils associated with desert shrub communities.

Due to its extreme rarity, surface disturbance could significantly impact the species. The plant's spiny nature makes it unpalatable as forage for livestock. However, herbicide spraying could negatively impact the species. Construction activity associated with oil and gas, range projects, and other project developments potentially threatens the plant's habitat. A proposed general floristic inventory of this area in 1995-96 may reveal more occurrences of this species.

6. Wyoming Tansy Mustard (*Descurainia torulosa*)

Wyoming tansy mustard is a Category 2 Candidate under review for Federal listing as Threatened or Endangered. The Nature Conservancy ranks this plant as G1S1, extremely vulnerable to extinction globally and extremely vulnerable to extirpation statewide. This species is known from eight sites: six in the Absaroka Mountains (Park and Fremont counties); and one population at Pine Butte and one at Lion Bluffs (Sweetwater County), Wyoming. The Sweetwater County populations are located on both BLM and private lands in the Resource Area.

The Sweetwater County populations are interesting in that they are widely disjunct from the main populations in the mountains of northwest Wyoming. The high, north-facing sandstone bluffs at Pine Butte and Lion Bluffs rise from the surrounding dry sagebrush grasslands and provide the cool, moist microsites the species requires. The plants grow close to the base of the bluffs in sandy soil. It is surmised that the species is a relic of a cooler climatic period, and has retreated to the only available habitat in the area which suits its needs.

Field survey by the Wyoming Natural Diversity Database in 1991 revealed the population at Lion Bluffs, at the northeast end of Quaking Aspen Mountain. The study encompassed all appropriate

areas displaying potential habitat in the study area. However, unsurveyed potential habitat may exist on the east slope of the Wind River Range.

The populations are all very small and do not appear to be thriving. Its limited range, small populations and lack of vigor make the Wyoming tansy mustard very vulnerable to extinction. At Pine Butte, surveys conducted in 1987 and 1991 observed less than 200 individuals in the habitat of under 10 acres. The population at the Pine Butte site is relatively inaccessible. Population information is not available for the Lion Bluffs site. This population of the Wyoming tansy mustard is vulnerable because of its location on Quaking Aspen Mountain. The single identified immediate threat to this population is mineral location.

Initial taxonomic studies of the species at the Sweetwater County locations led to some uncertainty whether these plants were members of *Descurainia torulosa* or a similar species. Based on the limited material available, the conclusion was that these populations are indeed members of *D. torulosa*. Additional specimens from throughout the range of the species, as well as further taxonomic studies, may clarify this taxonomic question. The Wyoming Natural Diversity Database suggested that until the taxonomy of the species is more conclusively determined, the species should be assigned a Category 2 status. This was done under the September 30, 1993 Notice of Review.

Due to its extremely specific habitat requirements and small populations, it is unlikely that this species will be found to be common under current climatic conditions. It remains very vulnerable to extinction. The proposed candidate plant ACEC will provide protective management designation for this species.

7. Large-Fruited Bladderpod (*Lesquerella macrocarpa*)

The large-fruited bladderpod is a Category 2 Candidate under review for Federal listing as Threatened or Endangered. The Nature Conservancy ranks this plant as G2S2, very vulnerable to extinction globally and very vulnerable to extirpation statewide. Prior to 1992, the large-fruited bladderpod was thought to be endemic to the northern Great Divide Basin in Sweetwater and Fremont counties, Wyoming. However, during a vegetative survey, it was located near the town of Opal in Lincoln County, Wyoming (Culwell 1992).

Most of the known large-fruited bladderpod populations occur on public land northeast of Steamboat Mountain on Bush Rim, near Continental Peak, and in the Oregon Buttes area. The species has been collected from sparsely vegetated clay flats, benches, slopes, and hills. It commonly grows in association with Gardner's saltbush between 7,200 and 7,700 feet in elevation.

Sites surveyed in 1981 ranged in size from 80 to over 1,000 acres, with estimates ranging from several hundred to tens of thousands of plants. Large-fruited bladderpod population sizes fluctuate from year to year, apparently in response to moisture availability. During dry years, when populations are small, the species is much more vulnerable to adverse impacts. Its overall limited range and small population sizes in dry years qualify *Lesquerella macrocarpa* as a Candidate species. No threats are known at this time. A monitoring program was established in 1988 by the Wyoming Natural Diversity Database (Marriott 1988), but was not considered a good baseline because of the effect of drought conditions on the population size. A status survey was conducted for this species in cooperation with the Rawlins District BLM in the summer of 1994.

8. Contracted Indian Ricegrass (*Oryzopsis contracta*)

The contracted Indian ricegrass is a Category 2 Candidate species under review for Federal listing as Threatened or Endangered. The Nature Conservancy ranks this species as G2S2, either rare, or local in its range, or found locally in a restricted area. This species is a regional endemic, found in southern Wyoming and northern Colorado.

The contracted Indian ricegrass is generally found in basin areas on dry, shallow, or sandy soils. Within the Resource Area, the contracted Indian ricegrass has been found southeast of Steamboat Mountain, Stagecoach Draw, and the Oregon Buttes area.

Prior to 1993, this species was known from only 12 locations in Wyoming and Colorado and was ranked G2, indicating it was imperiled throughout its range. Field surveys throughout the Rock Springs District in 1993 and 1994 resulted in discoveries of numerous new locations of the species. A status survey for the species in 1994 by the Wyoming Natural Diversity Database showed the species is widespread in central and western Wyoming. Contracted Indian ricegrass is palatable to livestock and could potentially be threatened on a local level by overgrazing or large-scale surface disturbances. However, due to its wide range, numerous occurrences, and low threats, the U.S. Fish and Wildlife Service is considering downgrading the contracted Indian ricegrass to Category 3C.

9. Swallen's Mountain Ricegrass (*Oryzopsis swallenii*)

This species is a Category 3C Candidate under review for Federal listing as Threatened or Endangered. The Nature Conservancy ranks this plant as G5S1, secure globally, but extremely vulnerable to extirpation statewide. The single known occurrence in the Green River Resource Area is in Bird Canyon, about one mile east of the Green River.

Swallen's mountain ricegrass is found on rocky slopes and rocky knobs in sandy areas, especially on calcareous soils. Its elevational range is between 6,600 and 7,100 feet.

No surveys are known to have been conducted for this species in Wyoming.

10. Stemless Beardtongue (*Penstemon acaulis*)

Stemless beardtongue is a Category 2 Candidate under review for Federal listing as Threatened or Endangered. The Nature Conservancy ranks this plant as G3S1, vulnerable to extinction globally and extremely vulnerable to extirpation statewide. Stemless beardtongue is endemic to Sweetwater County, Wyoming; northeast Utah (Daggett County); and northwest Colorado (Moffat County). Two varieties are recognized: var. *acaulis* is found in all three states, while var. *yampaensis*, with broader leaves, occurs in the eastern portion of the species range in Colorado and Utah. The stemless beardtongue is known from 5 sites in Wyoming, all in extreme southwest Sweetwater County near McKinnon, Wyoming.

Habitat consists of semi-barren substrates in pinyon-juniper and sagebrush-grassland communities. In Wyoming, stemless beardtongue occurs on rocky, sparsely-vegetated sites with sagebrush and cushion plants. Its elevational range is 5,900 to 7,200 feet. No records are available concerning potential habitat and areas surveyed in the past. Similar habitat (coarse outwash) occurs at other sites in the area.

Penstemon acaulis appears to be restricted in its overall range, and is infrequent to common where it occurs. No quantitative data on population size or trend are available. Management plans include a future status survey for this species and monitoring program.

11. Tufted Twinpod (*Physaria condensata*)

The tufted twinpod is a Category 3C Candidate under review for Federal listing as Threatened or Endangered. The Nature Conservancy ranks this plant as G2S2, very vulnerable to extinction globally and very vulnerable to extirpation statewide. The tufted twinpod is endemic to southwest Wyoming, currently with 18 known occurrences in Wyoming. Its single known location in the planning area is east of LaBarge.

The tufted twinpod's habitat consists of sparsely-vegetated shale slopes and ridges. It has been found growing between 6,000 and 7,600 feet in elevation.

This species was originally studied for the BLM in 1981, but the study concentrated on taxonomic differences between this species and others in the area. Survey routes of collections were not documented, and the entire range of the species was not mapped. Complete information concerning distribution, and population sizes and trends is lacking. Due to the lack of immediate threats to the species, the U. S. Fish and Wildlife Service downgraded the twinpod to 3C status (Notice of Review 1993). Much of its potential habitat has not been surveyed to date, and it is likely that more of the species will be found during the general floristic inventories of the Rock Springs District.

12. Green River Greenthread (*Thelesperma caespitosum*)

The Green River greenthread is a Category 2 Candidate under review for Federal listing as Threatened or Endangered. The Nature Conservancy has ranked this plant G1S1, extremely vulnerable to extinction globally and extremely vulnerable to extirpation statewide. The species is known from two locations in Wyoming and one historical occurrence in northeastern Utah. Both Wyoming locations occur within the Resource Area on escarpments above the Green River about 2 miles southeast of the town of Green River.

The Green River greenthread was discovered in 1988 growing on a ridge of barren white shale derived from the Green River Formation. This population is located in the vicinity of a heavily used recreational area where individual plants have been dislodged by vehicular activity. A second population was discovered in 1994 during a status survey by the Wyoming Natural Diversity Database. The newly found occurrence has not been directly impacted, but exists in an area of past drilling activity.

Due to its extreme rarity, impacts from seismic activity, mineral development, motor vehicle use, or any other surface disturbing activity could have serious impacts on this species. A monitoring plan was established in 1994 and should be monitored yearly to provide trend data. A habitat management plan which would prescribe protective actions is planned for this species.

13. Uinta Greenthread (*Thelesperma pubescens*)

Uinta greenthread is a Category 2 Candidate under review for Federal listing as Threatened or Endangered. The Nature Conservancy ranks this plant as G1S1, extremely vulnerable to extinction globally and extremely vulnerable to extirpation statewide.

Thelesperma pubescens is restricted to less than 100 square miles in southwestern Sweetwater and southeastern Uinta counties, Wyoming, and one location in Summit County, Utah. In the Resource Area, it occurs on BLM-managed public land off the north flank of the Uinta Mountains on Cedar, Sage Creek and Hickey Mountains. These mountains are isolated plateaus capped with cobbly, coarse soils formed from Bishop conglomerate. The Uinta greenthread grows along the rims of these mountaintops. All suitable potential habitat in the area of known populations has been surveyed for Uinta greenthread.

This species is generally abundant where it occurs; populations range in size from thousands to tens of thousands of individuals. Due to its overall restricted range, disturbance could significantly impact the species. A status survey was conducted for this species in 1988 by the Wyoming Natural Diversity Database (Marriott 1988a), primarily in response to active oil and gas field development in the area. Motorized vehicle activity on the habitat (tire tracks) was identified as an actual threat to the species during the summer of 1993. A habitat management plan is planned for this species. The proposed Candidate plant ACEC will provide protective management designation for this species.

14. Cedar Rim Easter Daisy (*Townsendia microcephala*)

The Cedar Rim Easter daisy, is a Category 2 Candidate under review for listing as Threatened or Endangered. The Nature Conservancy ranks this plant as G1S1, extremely vulnerable to extinction globally and extremely vulnerable to extirpation statewide. This species was recently discovered and is found only in southwest Sweetwater County, Wyoming. It grows in nearly identical habitat to that of *Thelesperma pubescens*.

The population of the Cedar Rim Easter daisy grows on a rocky slope at the summit of Cedar Mountain within one mile of a population of *Thelesperma pubescens*. Very little is known about this species. However, the Wyoming Natural Diversity Database performed a status survey of this species in the summer of 1994. A monitoring program was established and it is recommended that monitoring be done yearly.

Due to the extreme rarity and apparently very small population size, surface disturbance could significantly impact this species to the point of extinction.

III. INFORMATION SOURCES

The previous discussions on habitat use, activities, and habitat requirements for the various plant and animal species of concern are from the Green River Management Situation Analysis (MSA). The MSA provides the background information required to formulate decisions found in the RMP document. A variety of sources were solicited for background information used in the MSA.

Some of the information concerning wildlife populations, distribution, and history was furnished by Truman Julian, James June, Elaine Raper, and Don Roy (former WGFD biologists); and Dave Lockman, biologist, Wyoming Game and Fish Department. Additional data was provided by Dick Randall, Humane Society of the United States; Merle Bennett, Dick Gilbert, Joe Rodriguez, Art Anderson and Steve Martin, U.S. Fish and Wildlife Service; Tom Campbell and Dr. Tim Clark, Research Biologists from Biota Research, Jackson, Wyoming; the BLM resource area biologist, and from numerous BLM study and inventory contracts. Walt Fertig and Hollis Marriott of the Wyoming Natural Diversity Database, The Nature Conservancy, provided status survey reports and valuable information on the Candidate plant species found in the Resource

Area. In addition, information about recently discovered species was summarized from U.S. Fish and Wildlife Service status survey reports, botanical journal articles authored by Dr. Robert Dorn, and survey results from Western Energy and Engineering Inc. (Culwell 1992). The GIS data associated with this analysis reflect both historic and recent information.

IV. DIRECT AND INDIRECT IMPACTS

Colorado River Water Depletions

There are four species of fish in the upper Colorado River system that are federally listed as endangered. They are the Colorado squawfish (*Ptychocheilus lucius*), the humpback chub (*Gila cypha*), the bonytail chub (*Gila elegans*) and the razorback sucker (*Xyrauchen texanus*). Though they currently exist only downstream from this Resource Area, water from the Upper Green River basin affects the downstream habitat for these fish. Under the *Recovery and Implementation Program for Endangered Fish Species in the Upper Colorado River Basin* (RIP), any water depletions from tributary waters within the Colorado River drainage are considered as jeopardizing the continued existence of these fish. Tributary water is defined as water that contributes to instream flow habitat. Depletion is defined as water which would contribute to the river flow if not intercepted and removed from the system.

The RIP was developed as part of a cooperative effort between the states of Colorado, Utah, and Wyoming; the Bureau of Reclamation (BOR); U.S. Fish and Wildlife Service (USFWS); private water development interests; and various environmental groups. In addition, a cooperative agreement was signed by the governors of the states of Colorado, Utah, and Wyoming; the Secretary of the Interior; and the Administrator of the Western Area Power Administration, Department of Energy, to further implement the RIP.

Projects

For the purposes of this document the term "project" will mean any activity by or permitted by BLM that normally requires an environmental analysis in order to be implemented and which depletes or contributes water to the surface flow of the Green River or its tributaries. In figuring average annual depletion a project could be as small as one gas well drilled in one year or it could be as large as 150 gas wells drilled in 10 years. For this document only small depletions of under 125 acre-feet/year average annual depletion per project are considered. Larger depletion events caused by things such as new trona ponds or expanded trona mining operations, new coal operations, new power plant operations, irrigation projects, large reservoirs, etc., will be covered by separate environmental analysis and separate consultation under the Endangered Species Act. All coalbed methane projects would be handled in separate analysis, and estimated numbers of wells to be drilled are not included in the tables in this document. The Green River RMP, with an analysis period of 20 years, contains an estimate of small depletions. The average annual depletion is calculated for both BLM and other project proponents (Table 4). Also calculated is the amount depleted by projects developed prior to 1988 (Table 5) and the amount of water contribution provided by past projects that are still contributing water to the system today (Table 6).

New Depletions

Throughout the Upper Green River Basin, water depletions could occur from, but are not limited to, such activities as oil and gas

drilling operations, solid mineral extraction, power generation, irrigation, culinary use, hydrostatic testing of pipelines, evaporation from water impoundments, water wells, etc. Past environmental analyses and biological assessments have documented impacts from such uses. Some of these actions are internal agency actions and others are BLM permitted actions by outside organizations or individuals. Whether or not any specific action would actually result in a depletion from tributary water to the Green River needs to be determined case by case and site specifically. In estimating the total water depletion from small depleting events (those taking less than 125 acre-feet/year) over the next 20 years in the Green River Resource Area, some assumptions are made:

- 1) Only half of the reservoirs, water pits, and catchments installed under the range or wildlife programs would be assumed to affect the flow in the Green River.
- 2) Reservoirs, water pits, and catchments, etc. installed under the range or wildlife programs that cause a depletion would be assumed to average 0.5 acre-feet/year.
- 3) Reservoirs, water pits, and catchments, etc. installed under the range or wildlife programs would be assumed to be installed all in year 1 of the plan.
- 4) Water wells would cause a depletion if located within the floodplain or other recharge zones as delineated by the District geologist and hydrologist.
- 5) Oil and gas well drilling operations would be assumed to cause, on average for an 8,000 foot well depth, a one time depletion of 1 acre-foot per well. Actual numbers will be calculated as wells are drilled based on 40 gallons of water per foot of depth.
- 6) Water used in hydrostatic testing of pipelines would be assumed to be returned to the water system, thus causing no depletion.
- 7) Spring developments would be assumed to deplete 0.5 acre-feet per year each, all installed year 1 of the plan, and only half of the springs affect the flow of the Green River.
- 8) Larger depletion events (those over 125 acre-feet/year) caused by things such as new trona ponds or expanded trona mining operations, new coal operations, new power plant operations, irrigation projects, large reservoirs, etc., would be assumed to be covered by separate environmental analyses and biological assessments. All coalbed methane projects would be handled in separate analyses, and estimated numbers of wells to be drilled are not included in the totals in Table 1.

Historic Depletions

Historic depletions are those depletions occurring prior to January 22, 1988 (the date the RIP Cooperative Agreement was signed) and which continue to deplete today. Reservoirs are an example of such depletions provided they stop water from entering a tributary that would add to the surface flow of the Green River. Water wells drilled prior to 1988 were randomly checked for depletion and found to all be in locations that do not affect the aquifer providing recharge to the Green River system or its tributaries. Spring developments prior to 1988 were sampled and were not found to be in areas which were contributing to perennial streams. Also, the majority of the spring developments are "closed systems" which basically means they have float valves which do not allow continuous flow away from the spring site (i.e., when the valve is shut, no water is taken from the spring).

Water Contributions to the Green River System

There are several abandoned or converted exploration wells (from Oil and Gas, Trona, Coal, DOE, etc.) on BLM-administered lands that are maintained as flowing wells and that provide year around flowing water of good quality, supplementing the flow of perennial streams within the Green River system. The estimated total flow from these wells is 222.6 acre-feet per year into perennial streams. This water is from deep aquifers that do not normally contribute to the surface flow of the Green River. There are perhaps twice this number of flowing wells which do not provide water on the surface to perennial streams but quite possibly make it underground to support the perennial flow. It is not possible to ascertain the total effect from these water sources and this flow is not figured into any calculations for water contribution. These flowing wells (222.6 acre-feet per year) will more than offset the expected average annual depletions (73.05 acre-feet per year) for projects which create new, small depletions during the RMP analysis period under the Proposed Alternative (Table 1). Should this average annual small depletion total be adjusted upward in future years because of unforeseen increased activity, depletions will still be offset up to the amount of the contributions (222.6 acre-feet/year) calculated above provided those contributions continue; if that figure should be exceeded, further consultation would be initiated. In addition, resource enhancement projects within the watershed of the Green River basin logically would improve water flows and quality but unless there is a "point source" that can be measured independent of climatic and other factors this cannot be figured into the calculations for water contribution.

Future Considerations

In order to keep track of the many possible changes that may occur during the life of the Resource Management Plan, the Green River Resource Area will provide the USFWS documentation of water depletions or contributions for projects as they are implemented. This will be done to insure that average annual water depletions within the GRRA do not exceed the amount of average annual water contributions (currently at 222.6 acre-feet/year).

Historic depletions (from those projects initiated prior to 1988 and continuing today) will change only as these projects cease to exist. As this occurs, the historic depletion total will continue to decline. All new projects, including repair of washed out reservoirs for example, will be treated as new projects and new depletions. An annual coordination meeting between USFWS and BLM should be held to review depletion issues for the Resource Area.

Animal Damage Control Activities

Refer to the July 28, 1992 biological opinion rendered to Mr. Robert Melland, Animal and Plant Health Inspection Service, U.S. Department of Agriculture, Washington, D.C., in regard to animal damage control programs on threatened and endangered species.

Leasable and Salable Minerals

Applications and issuance of minerals activities require that an Endangered Species Clearance review be completed and a "No Effect" or "May Effect" decision be rendered. Consultation will be initiated on actions in which a "May Effect" decision has been rendered and "No Effect" alternatives are either unavailable or unacceptable.

All Other Land Use Activities

All land use activities regardless of origin are required to comply with Section 7 (Federal Agency Actions and Consultations) of the Endangered Species Act. Action and site specific Threatened or Endangered Species clearances are and will be performed inhouse or under contract to satisfy provisions of the Endangered Species Act.

Referencing Volume 2, Chapter 4 - Environmental Consequences would be helpful to the Service in developing the Biological Opinion.

V. CUMULATIVE IMPACTS

The Resource Management Plan emphasizes maintenance and enhancement of threatened and endangered and special status species and biodiversity. The impacts to these species and critical habitats will be addressed as each activity plan is prepared or revised. The following discussion relates only to those activities within the plan which could cumulatively impact Threatened, Endangered, or Special Status plants and wildlife.

Fire Management

Fire suppression activities and associated fire camps could adversely affect Special Status plants through application of retardants or fire line construction with heavy equipment. The discussion in Volume 1, page 125 indicates that suppression activities will be designed to protect candidate plants.

Lands and Realty Management

Cumulative adverse impacts could occur through issuance of rights-of-ways, Special Land Use Permits (SLUP), and other authorized land use actions within or adjacent to threatened and endangered or special status plant areas. Spiderweb-like development of roads, pipelines, and well sites in East LaBarge could adversely affect recolonization of wooded riparian habitats by bald eagle or river cliff sites by peregrine falcon. Roadway dust or flaring emissions from gas wells may adversely alter special status plant communities. The cumulative effect of roadways, pipelines, and drill pad construction in prairie dog colonies may reduce the available habitat for black-footed ferrets and fragment these special features.

Many relic plant communities occur in high elevation sites or on isolated geologic features. These sites are also preferred for communication sites. Cumulative impacts to potential communities of special status plants could occur with construction and maintenance of communication facilities in some locations.

Livestock Grazing Management

Volume 1, page 136 proposes as Management Actions, that authorized grazing use would not exceed the recognized active grazing preference of 318,647 AUMs. With the past 5-year average of 180,000 AUMs of grazing use, we are seeing some wetlands and riparian habitats gradually improve while others are in static condition and yet others continue to deteriorate. Many of the listed and candidate wildlife species are associated with wetlands and riparian habitats. Should the full grazing preference of livestock be activated, we could anticipate these special habitats to deteriorate and become unsuitable for many listed and candidate plant and animal species. Grazing levels based upon monitoring plant growth and forage use may allow more active AUMs of grazing than presently occur, but it requires moving livestock much more often to prevent overuse.

Development of supplemental wildlife waters in lightly grazed portions of some pastures could cumulatively impact special status plant species and alter plant communities. Placement of salt stations on or near riparian areas and in potential special status plant communities would have adverse impacts to some species listed in Table 1.

Minerals Management

Leasable Minerals

As previously discussed, oil and gas field development could adversely impact threatened and endangered and candidate species by the cumulative effect of human disturbance (noise, dust, vehicles, human presence, heavy equipment dirtwork), habitat fragmentation (roads, wells, compressors, etc.), and potential for accidental hazard waste discharge. The present 160-acre spacing is not so adverse as development on a tighter spacing, such as 80 acres, where considerable fragmentation and human intrusion would occur.

Leasable mineral development is often associated with open water impoundments with water quality of a toxic nature. As more large impoundments are developed, the likelihood of threatened and endangered species loss increases. Several of the species in Table 1 of this Biological Assessment are associated with water and wetland habitats and the cumulative effects of hazardous impoundment development on threatened and endangered species could increase if restrictive measures are not implemented.

Salable Minerals

A single flagstone sale may not have adverse impacts to threatened and endangered and special status plants and animals, but the cumulative impact of several sales in the same area over a period of time may displace raptor nesting or destroy plants. Dispersed collecting over a wide area during appropriate seasons should have fewer impacts.

Recreation Resource Management

There may be some cumulative impacts to riparian habitat and associated threatened and endangered species from camping activities and ORV use on and along riparian habitats and on major waterways.

VI. COORDINATION WHICH WILL REDUCE ADVERSE THREATENED AND ENDANGERED IMPACTS

Much of the resource data for the planning area has been entered into the Geographic Information System. This data has been used to overlay conflicting resource information in areas of development and or protection, thereby coordinating resource management. The raptor database has about 1,600 nests classed as active during the time of inventory and located in a variety of habitats. This represents about one-third of the total nests identified during various raptor surveys in the resource area. The BLM is in the process of summarizing data for GIS input for habitats for other threatened and endangered species. These data will soon be available for future conflict analysis.

Some additional measures of mitigation discussed in the RMP to offset potential adverse impacts from various activities are discussed.

Active raptor nesting habitat (cliffs, bluffs, roosts, outcrops, and pinnacles) may be considered No Surface Occupancy areas subject to raptor activity that year and during a season which could occur between February 1 to July 15 (depending on species and fledgling hatching dates). Nesting raptors would be protected by restricting activities within a buffer zone of .6 to .8 miles radius of active raptor nesting sites or occupied habitat (reference Table 7, Seasonal Restrictions for All Surface Disturbance Activities of the DEIS). Active or historic raptor nesting sites would be protected and managed to allow for continued nesting activities.

Any coal leasing on federal coal lands would be subject to the following conditions:

1. Inventory followed by consultation with the U.S. Fish and Wildlife Service.
2. No surface mining or surface operations in areas having an active or viable nest or in the associated buffer zone (viable as determined by the USFWS).
3. If exceptions are granted, no surface-disturbing activities will be permitted in such areas during breeding and nesting seasons.
4. Should new nests become established on or within one mile of the lease area during the course of mining, the BLM will consult with the USFWS to determine mitigative measures that may be needed to protect nesting birds.

The Tri-State Monument ACEC is identified for the protection of watershed values and sensitive status fish species. The area consists of the Currant Creek, Sage Creek, and Red Creek watersheds. Watershed features such as sedimentation, water quality, and stability are currently threatening the existence of Colorado River cut-throat trout through habitat deterioration and seriously affects the fisheries potential of the Green River.

Fish spawning areas would also be protected by preventing or restricting stream disturbance activities during spawning periods. Disturbance activities in game fish spawning areas (spring spawning or fall spawning) would be determined on case-by-case basis.

About 463,000 acres of coal potential lands would be subject to continued field investigations, studies, and evaluations to determine if certain methods of coal mining can occur without having a significant long-term impact on wildlife, and especially on threatened and endangered plant and animal species and their essential habitats. Such investigations, studies, and evaluations may be conducted on an as needed or case-by-case basis in reviewing individual coal leasing or development proposals (e.g., mine plans) or, if opportunities or needs arise, area-wide studies may be conducted. These studies would include keeping resource base data current (e.g., where existing raptor nests become abandoned or where new raptor nests become established), analysis of effects to wildlife and threatened and endangered species habitats and populations, and the cumulative effects of mining operations and other activities in the area. Consultation with other agencies (e.g., USFWS, WGFD, etc.), special interest groups, and with industry would occur as needed or required.

Inventories and clearances are required for authorized BLM activities in areas known or suspected to be essential habitat for animals and plants classified as a threatened, endangered, or special status species. These studies will be done in accordance with BLM and U.S. Fish and Wildlife Service guidelines to verify the presence or absence of these species. In the event that a listed species is identified, the lessee/permittee will be required to modify operational plans to include the protection requirements of the species and its habitat (e.g., seasonal use restrictions, occupancy limitations, facility design modifications).

Habitat for threatened, endangered, and sensitive plant and animal species would be provided, maintained, or improved through vegetative manipulation, mitigation measures, or other management actions including habitat protection, acquisition, and easements.

Site specific activity planning (allotment management plans, habitat management plans, etc.) and site specific analysis of individual actions require further site specific analysis of effects to all resources including threatened and endangered and candidate species. Inventories will be conducted and the data bases kept current.

Off-road vehicle travel on most public land acres would be limited to existing roads and trails to reduce adverse environmental damage and reduce conflicts with sensitive and/or threatened and endangered species. Some roads and trails would be closed and reclaimed as a result of transportation planning. Transportation planning would include proper road location, construction, reconstruction, design, and reclamation.

Known locations of candidate plant species communities (44 locations and 3,110 acres) are to be protected and closed to: 1) surface disturbing activities that could adversely affect the plants or their habitat; 2) the location of new mining claims (withdrawals will be pursued); 3) mineral material sales; 4) off-road vehicle travel; 5) geophysical exploration activities; and 6) the use of explosives and blasting.

In addition, the area (about 440 acres) occupied by four of the plants described above (*Arabis pusilla*, *Astragalus proimanthus*, *Descurania torulosa*, and *Thelesperma pubescens*) has been designated as an Area of Environmental Concern in the Preferred Alternative.

Searches would be conducted to identify new plant locations and on potential habitat areas prior to projects. As new populations are identified, they would be added to the ACEC. Up to an additional 30,900 acres of potential habitat could be added to the ACEC if it is determined that any of the four candidate plants are present. Should a plant be de-listed, management of that plant species under ACEC prescriptions would be discontinued. The ACEC acreage could thus increase or decrease depending upon the results of the searches or de-listing. If plants are found on identified potential habitat areas, the plant site and its associated habitat will be avoided and not occupied. If plants are not found, occupancy will be allowed with proper mitigation.

It may be desirable to acquire approximately 1,900 acres of habitat near Pine Butte to enhance management of *Descurania torulosa*.

Please refer to the Draft Environmental Impact Statement of the Green River RMP for additional mitigation and or protective measures.

VII. MAY EFFECT/NO EFFECT DETERMINATION

The Green River RMP in and of itself is an overall plan for management direction of various commodity and natural resource programs for the next 20 years. BLM policy of "no net loss" of wetlands and direction to "achieve 75 percent of riparian areas in proper functioning condition" should improve the status of many of the species previously discussed. Numerous other proposals within activity prescriptions demonstrate progressive attitudes toward biodiversity and improved responsible environmental management of public lands.

It has been ruled that any water depletion to the Colorado River or its tributaries constitutes a "may effect" situation to the endangered fish species of this system. Water will be removed from the Green River or its tributaries during the implementation of the GRRA RMP. However, the contribution of good quality water from artesian wells, currently in the amount of 222.6 acre-feet/year mitigates the effect of the anticipated water depletions. This contributed water enhances instream flows to the river system. If these wells were not maintained or were shut down, that water would not be available to the system.

In addition, the relationship between the operation of Flaming Gorge Dam and minor water depletions above the dam should be reevaluated. The dam, situated just south of the Wyoming/Utah border, backs a reservoir that has a volume of 3,788,700 acre-feet and a surface acreage of 42,000 acres. All of the critical habitat for the Colorado River endangered fish species is located downstream of this dam. The operation of the dam is entirely responsible for the instream flow regime provided by the Wyoming portion of the Green River through this critical habitat. It is very unlikely that the average annual depletion calculated for small depletions during the next 20 years (73.05 acre-feet) could ever affect the operation of a 3.7 million acre-foot reservoir even if it were not offset by the water contributions mentioned in section IV above. The effect would be negligible. Evaporation alone on this reservoir would amount to more than 168,000 acre-feet annually (4 x 42,000). Also, unless water withdrawal upstream of the dam would affect the operation of the dam, there would be no effect on the instream flows through the critical habitat areas.

Analysis of the proposed management prescriptions in the Preferred Alternative indicate that the Green River Resource Area RMP is not likely to adversely affect the status of any previously discussed plant or wildlife species and constitutes a "No Effect" determination.

TABLE 1
SPECIES LIST

USFWS Category	Common Name	Scientific Name
Listed Species	Black-footed ferret	<i>Mustela nigripes</i>
	Bald eagle	<i>Haliaeetus leucocephalus</i>
	Peregrine falcon	<i>Falco peregrinus</i>
	Whooping crane	<i>Grus americana</i>
	Bonytail chub	<i>Gila robusta elegans</i>
	Colorado squawfish	<i>Ptychocheilus lucius</i>
	Humpback chub	<i>Gila cypha</i>
	Razorback sucker	<i>Xyrauchen texanus</i>
Proposed Species	Small rockcress	<i>Arabis pusilla</i>
Candidate Species	Lynx	<i>Felis lynx</i>
	North American wolverine	<i>Gulo gulo luscus</i>
	Pygmy rabbit	<i>Sylvilagus idahoensis</i>
	Black tern	<i>Chlidonias niger</i>
	Ferruginous hawk	<i>Buteo regalis</i>
	Loggerhead shrike	<i>Lanius ludovicianus</i>
	Long-billed curlew	<i>Numenius americanus</i>
	Mountain plover	<i>Chadrius montanus</i>
	Northern goshawk	<i>Accipiter gentilis</i>
	Western snowy plover	<i>Charadrius alexandrinus</i>
	White-faced ibis	<i>Plegadis chihi</i>
	Colorado River cutthroat trout	<i>Oncorhynchus clarki pleuriticus</i>
	Flannelmouth sucker	<i>Catostomus latipinnis</i>
	Leatherside chub	<i>Gila copei</i>
	Roundtail chub	<i>Gila robusta robusta</i>
	Large fruited bladderpod	<i>Lesquerella macrocarpa</i>
	Meadow pussytoes	<i>Antennaria arcuata</i>
	Precocious milkvetch	<i>Astragalus proimanthus</i>
	Stemless beardtongue	<i>Penstemon acaulis</i>
	Williams rockcress	<i>Arabis williamsii</i>
	Wyoming tansymustard	<i>Descuriania torulosa</i>
	Pubescent greenthread	<i>Thelesperma pubescens</i>
	Green River greenthread	<i>Thelesperma caespitosum</i>

TABLE 2
FERRET SIGHTINGS

Date	Location	Number	Comments
May 1968	2 miles south of Green River, 2 miles off river	1 adult	Probable
1969	T. 18 N., R. 93 W., Sec. 21	1 adult(?)	Positive
August 1972	T. 14 N., R. 98 W., Secs. 35-36	1 adult(?)	Probable
August 1973	53 miles west of Rawlins, 0.2 miles south of Tipton Road	1 adult	Possible
September 1974	T. 18 N., R. 98 W., Sec. 30, 5 miles south of Bitter Creek	1 adult	Probable
May 1975	8 miles west and 2 miles south of Green River	1 adult(?)	Possible
October 1975	T. 21 N., R. 111 W., Sec. 21	1 adult(?)	Positive
1976	T. 22 N., R. 110 W., Sec. 22	1 adult(?)	Positive
Summer 1979	Sweetwater County, Superior Exit on I-80	1 adult(?)	Probable
May 1983	T. 23 N., R. 98 W., Sweetwater County	1 adult(?)	Confirmed
July 1983	Sweetwater County, Bar X Road near I-80	1 adult(?)	Probable
April 1984	T. 18 N., R. 107 W., Sec. 22, 1 mile west of Green River	1 adult	Probable
May 1984	Sweetwater County, near Green River	1 adult(?)	Probable
July 1992	T. 15 N., R. 96 W., Sec. 16, south of trail toward Sand Creek in Adobe Town	1 adult(?)	?

TABLE 3
CANDIDATE PLANT SPECIES IN THE GREEN RIVER RESOURCE AREA

Plant Name		Classification	
Scientific	Common	Federal	Conservancy*
<i>Antennaria arcuata</i>	meadow pussytoes	2	G2S2
<i>Arabis pusilla</i>	small rockcress	1	G1S1
<i>Arabis williamsii</i>	William's rockcress	3C	G3S3
<i>Artemisia biennis</i> var. <i>diffusa</i>	diffuse sagebrush	2	G5T1/S1
<i>Astragalus proimanthus</i>	precocious milkvetch	2	G1S1
<i>Cirsium ownbeyi</i>	Ownbey's thistle	2	G3S1
<i>Descurainia torulosa</i>	Wyoming tansy mustard	2	G1S1
<i>Lesquerella macrocarpa</i>	large fruited bladderpod	2	G2S2
<i>Oryzopsis contracta</i>	Contracted ricegrass	2	G2S2
<i>Oryzopsis swallenii</i>	Swallen's mountain ricegrass	3C	G5S1
<i>Penstemon acaulis</i>	stemless beardtongue	2	G2S1
<i>Physaria condensata</i>	Tufted twinpod	3C	G2S2
<i>Thelesperma pubescens</i>	Uinta greenthread	2	G1S1
<i>Thelesperma caespitosum</i>	Green River greenthread	2	G1S1
<i>Townsendia microcephala</i>	Cedar Mountain Easter daisy	2	G1S1

*Global Ranking

- G1-extremely vulnerable to extinction globally
- G2-very vulnerable to extinction globally
- G3-vulnerable to extinction globally
- G4-apparently secure globally
- G5-secure globally

*Statewide Ranking

- S1-extremely vulnerable to extirpation statewide
- S2-very vulnerable to extirpation statewide
- S3-vulnerable to extirpation statewide
- S4-apparently secure statewide
- S5-secure statewide

*Trinomial Ranking

- T1-this subspecies or variety extremely rare and vulnerable to extinction
- T2-this subspecies or variety rare, vulnerable to extinction
- T3-this subspecies or variety rare, local or restricted in its range

NOTE: The ranking system used by the Nature Conservancy, Natural Diversity Data Base for plant sensitivity is on a global and a statewide basis. Sensitivity is determined by the vulnerability of the species to extinction globally or extirpation statewide, based on threats to the population.

Source: The Nature Conservancy 1990. Natural Diversity Data Base Ranking System. [Source: Federal Register, September 30, 1993, and the Wyoming Natural Diversity Database 1993, "Wyoming Plant Species of Special Concern".]

TABLE 4
SUMMARY TABLE FOR NEW SMALL WATER DEPLETIONS
WITHIN THE GREEN RIVER DRAINAGE

Activity	BLM-Initiated (all alts)	Other Project Proponents			
		Preferred Alternative	Alternative A	Alternative B	Alternative C
Reservoirs(#)	43	None	None	None	None
Water Wells(#)	7	Unknown	Unknown	Unknown	Unknown
Spring Developments(#)	8	None	None	None	None
Oil & Gas Well Drilling(#)	None	1,206	1,234	2,232	1,202
Irrigation	None	None	None	None	None

Activity	BLM Total Depletion (acre-feet) (all alts)	Other Water Proponent Total Depletion			
		Preferred Alternative	Alternative A	Alternative B	Alternative C
Reservoirs	215	None	None	None	None
Water Wells	"but for" clause	Unknown	Unknown	Unknown	Unknown
Springs	40	None	None	None	None
Oil & Gas Wells	None	None	None	None	None
Irrigation	None	None	None	None	None
TOTAL	255	1,206	1,234	2,232	1,202
AVERAGE ANNUAL DEPLETION	12.75	60.30	61.70	111.60	60.10

TABLE 5
HISTORIC DEPLETIONS

Activity	BLM-Initiated Activity	Other Project Proponents
Reservoirs (#)	497	None
Water Wells (#)	70	None
Spring Developments (#)	50	None
Oil & Gas Well Drilling (#)	None	3,071 ¹

Activity	BLM Total Depletion (acre-feet)	Other Water Proponent Total Depletion
Reservoirs	113 ²	None
Water Wells	"but for..."	"but for..."
Springs	"but for..."	"but for..."
Oil & Gas Wells	None	None ¹
AVERAGE ANNUAL DEPLETION	113	None ³

¹ Wells drilled from 1900-1987. Water used for drilling these wells was a one time use at the time of drilling and does not continue today. Water for drilling wells since 1988 is handled as new depletion.

² "But for..." on all but an estimated 10% of the perennial surface acres or 56.49 acres. Of this the ponds only average ½ full in any year. Calculation is as follows: 10% x 56.49 x 0.5 x 4' evaporation = 113 acre-feet/year.

³ It should be noted that this refers to small depletions of less than 125 acre-feet/year. There are several major projects in the resource area using many thousands of acre-feet of water per year which would fall under the "major depletion" category and which were begun prior to 1988 (i.e., trona mines, coal mines, Bridger Power, phosphate plant, etc.).

TABLE 6

FLOWING WELLS KNOWN TO CONTRIBUTE WATER TO PERENNIAL STREAMS

Source	Flow (gpm)
Little Sandy River	
Pencil Point/Flat Top	5
Roundtop Artesian	5
Big Sandy River	
Flowing Well Enclosure	7
Pacific Creek (above Jack Morrow)	5
Big Sandy Reservoir	10
Mitchell Slough	30
Bitter Creek	
Tenmile Marsh	6
Threemile Meadow	20
Above Hallville	30
Upper Bitter Creek	20
TOTAL	138

CALCULATION: 1 gpm = 1.613 acre-feet/year; 138 gpm
x 1.613 = 222.6 acre-feet/year contribution.

TABLE 7
SEASONAL RESTRICTIONS FOR ALL SURFACE DISTURBANCE ACTIVITIES

Affected Areas	Restrictions	Restricted Area
Big Game Crucial Winter Ranges	November 15 - April 30	Antelope, elk, moose, and mule deer crucial winter ranges
Parturition Areas	May 1 - June 30	Designated parturition areas
Sage Grouse Leks and Nesting Areas	February 1 - July 31	Up to 2-mile radius of lek
Golden Eagle Nest	February 1 - July 31	Within ½ mile radius
Osprey Nest	February 1 - July 31	Within ½ mile radius
Swainson's Hawk Nest	February 1 - July 31	Within ½ mile radius
Ferruginous Hawk Nest	February 1 - July 31	Within 1-mile radius
Coopers Hawk Nest	February 1 - July 31	Within ½ mile radius
Burrowing Owl Nest	February 1 - July 31	Within ½ mile radius
Merlin Nest	February 1 - July 31	Within ½ mile radius
Other Raptors	February 1 - July 31	Within ½ mile radius

VIII. BIBLIOGRAPHY

- Baxter, G.T. and M. Stromberg 1980. *Status Report*. Report to U.S. Fish and Wildlife Service. Denver, Colorado.
- Behnke, R.J. 1992. *Native Trout of North America*. American Fisheries Society Monograph 6. Bethesda, Maryland.
- Bureau of Land Management, Rock Springs District 1986. *Peregrine Falcons, An Informational Summary for the Green River and Kemmerer Resource Areas*. (Bryan T. Helmich) 120pp.
- Carr, A., et al. 1986. *The Black-Footed Ferret*. Great Basin Naturalist Memoirs, Number 8. Brigham Young University.
- Culwell, D. (WESTECH-Western Technology and Engineering Inc) 1992. Personal communication with BLM Rock Springs District Botanist (In District files) November 4, 1992.
- Dorn, R. 1990. Report on the status of *Arabis pusilla*, a Candidate Threatened Species. Report to U.S. Fish and Wildlife Service. Denver, Colorado.
- Dorn, R. 1980. *Illustrated Guide to Special Interest Vascular Plants of Wyoming*. U.S. Fish and Wildlife Service and Bureau of Land Management.
- Marriott, H. 1988. *Draft Habitat Management Plan for Threatened, Endangered, and Sensitive Plant Species and Their Habitats on the Rock Springs District, Bureau of Land Management*. Wyoming Natural Diversity Database, Rocky Mountain Heritage Task Force, The Nature Conservancy.
- Marriott, H. 1988a. Inventory and Monitoring of *Thelesperma pubescens*. Report to the Wasatch National Forest and Rock Springs District BLM, prepared by the Wyoming Natural Diversity Database.
- Marriott, H. 1989. Inventory and Monitoring of *Astragalus proimanthus* (Precocious milkvetch). Report to the Rock Springs District BLM, prepared by the Wyoming Natural Diversity Database.
- Marriott, H. 1992. Status Report for *Descuarainia torulosa* (Wyoming tansy mustard), Sweetwater County, Wyoming. Report to the Rock Springs District BLM, prepared by the Wyoming Natural Diversity Database.
- Richardson, L., T.W. Clark, S.C. Forrest, T.M. Campbell III, et al. 1985. *Proceedings of the Black-Footed Ferret Workshop, Sept. 18-19, 1984*. Wyoming Game and Fish Department. Cheyenne, Wyoming.
- Sherrod, S.K. 1978. *Diets of North American Falconiformes*. Raptor Research, Volume 12. 1978. Raptor Research Foundation, Inc. Provo, Utah.

APPENDIX 14-2

BIOLOGICAL OPINION



United States Department of the Interior

FISH AND WILDLIFE SERVICE

Ecological Services
4000 Morrie Avenue
Cheyenne, Wyoming 82001

IN REPLY REFER TO:

TAKE
PRIDE IN
AMERICA

8 1994	
SO	LEAD
ASD	SPR
CEA	AMR
ESD	OF
LAW	LEAD RMP

FWE-61411
spb/W.02(b1mgrrmp.bo2)

July 12, 1994

Memorandum

To: State Director, Bureau of Land Management, Cheyenne, Wyoming

From: Field Supervisor, Ecological Services, Cheyenne, WY

Subject: Biological Assessment for the Green River Resource Management Plan
EIS

Thank you for your memo of March 14, requesting formal consultation on the subject document. In accordance with section 7 of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 et seq.), and the Interagency Cooperation Regulations (50 CFR 402), the Fish and Wildlife Service (Service) reviewed your biological assessment regarding the impacts of projects described in the Bureau of Land Management's (Bureau) Green River Resource Area Resource Management Plan (RMP) on endangered Colorado River fish. On September 24, 1993, this office concurred that implementation of the RMP, as described, was not likely to adversely affect the endangered bald eagle (Haliaeetus leucocephalus), peregrine falcon (Falco peregrinus), black-footed ferret (Mustela nigripes), or whooping crane (Grus americana). We did not concur with your determination on the endangered fishes of the Colorado River System. The preferred alternative will cause an average annual depletion of 73.05 acre-feet.

A Recovery Implementation Program for Endangered Fish Species in the Upper Colorado River Basin (Recovery Program) was initiated on January 22, 1988. The Recovery Program was intended to be the reasonable and prudent alternative to avoid jeopardy to the endangered fish by depletions from the Upper Colorado River.

To further define and clarify the process in the Recovery Program, a section 7 agreement was implemented on October 15, 1993, by the Recovery Program participants (U.S. Fish and Wildlife Service 1993). Incorporated into this agreement is a Recovery Implementation Program Recovery Action Plan (Plan), which identifies actions currently believed to be required to recover the endangered fish of the Upper Colorado River Basin in the most expeditious manner possible.

A part of the Recovery Program was the requirement that, for projects resulting in a depletion of water from the Colorado River system, a depletion fee would be paid to help support the Recovery Program. On July 5, 1994, the Service issued a biological opinion determining that the fees for depletions of 100 acre-feet or less were no longer required. At that time, the Recovery

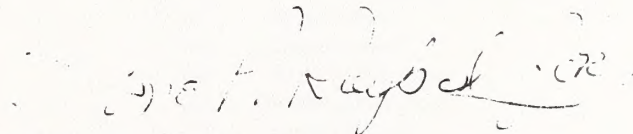
APPENDIX 14-2

Program was judged to have made sufficient progress to be the reasonable and prudent alternative to avoid the likelihood of jeopardy to the endangered fishes and to avoid destruction or adverse modification of their critical habitat for depletions of 100 acre-feet or less. Therefore, the depletion fee for this project is waived.

Permits or other documents authorizing specific projects that result in depletions should state that the Bureau retains discretionary authority over each project for the purpose of endangered species consultation. If the Recovery Program is unable to implement the Plan in a timely manner, reinitiation of section 7 consultation may be required so that a new reasonable and prudent alternative can be developed by the Service.

This concludes the Service's consultation on the impacts of the proposed action. If new information becomes available, new species are listed, sufficient progress is not achieved, or should there be any changes in the action in a manner or to an extent not considered herein, formal section 7 consultation should be reinitiated.

We appreciate the Bureau's effort to address all depletions in the Green River Resource Area. We believe that this approach offers an opportunity to simultaneously evaluate cumulative impacts of many programs. Completion of this consultation will reduce the need for additional consultation on each individual project. We encourage the Bureau to initiate consultation for the other Resource Areas within the Colorado River Drainage in Wyoming, in one consultation, if possible. This will allow for a more complete review of depletion impacts, while minimizing paperwork for all involved. Such a consultation could be done on a programmatic basis (e.g., petroleum development), or, as was done in this case, on a geographic-area planning basis. My staff remains available to assist you as necessary.



Charles P. Davis

cc: Director, WGFD, Cheyenne, Wyoming

APPENDIX 14-3

COMMENTS AND RESPONSES

1	Federal Highway Administration	67	John Fraher
2	National Park Service	68	Elkhorn Construction, Inc.
3	National Park Service	69	Pacific Power
4	U.S. Army Corps of Engineers	70	Stockgrowers State Bank
5	Department of the Air Force	71	R.K. O'Connell
6	Bureau of Mines	72	Black Hills Bentonite
7	U.S. Forest Service	73	Douglas F. Miller
8	Federal Energy Regulatory Commission	74	Alpha Exploration, Inc.
9	Department of Health and Human Services	75	Susan Guio
10	U.S. EPA, Region VIII	76	The Bank of Laramie
11	U.S. Fish and Wildlife Service	77	Black Hills Power and Light Company
12	State of Wyoming, Governor, Mike Sullivan	78	MDU Resources Group, Inc.
13	State of Wyoming, Department of Environmental Quality	79	Sun Ranch
14	State of Wyoming, Department of Commerce	80	Palm Livestock Company
15	State of Wyoming, Department of Commerce, Division of Parks	81	Royal Alliance
16	State of Wyoming, Game & Fish Department	82	W.M. Taliaferro
17	State of Wyoming, Geological Survey	83	Harold Josendal
18	State of Wyoming, Oil & Gas Conservation Commission	84	Northwest Pipeline Corporation
19	State of Wyoming, State Land & Farm Loan Office	85	Questar Pipeline Company
20	State of Wyoming, Public Service Commission	86	Pacific Power
21	State of Wyoming, State of Engineer's Office	87	Altamont Gas Transmission Company
22	Ray Sarcletti, State Representative	88	Bridger Coal Company
23	Eli Bebout, State Representative	89	FMC Wyoming Corporation
24	Linda M. Taliaferro, Sweetwater County Commission	90	General Chemical
25	Jim Carroll, Mayor, City of Kemmerer	91	Rhône-Poulenc of Wyoming, L.P.
26	Dennis J. Ottley, Mayor, City of Evanston	92	Solvay Minerals
27	Rocky Mountain Oil & Gas Association	93	Wyoming Mining Association
28	Petroleum Association of Wyoming	94	Friends of Wild Wyoming Deserts
29	IPAMS	95	Sierra Club, Wyoming Chapter
30	ENRON Oil & Gas Company	96	Sierra Club, Rocky Mountain Chapter
31	EXXON Company, U.S.A.	97	Greater Yellowstone Coalition
32	Heitzman Drill Services	98	Friends of the Bow
33	Union Pacific Resources	99	Marvin J. Friedenberg
34	Texaco Exploration and Production, Inc.	100	Joan Bennet
35	Amoco Production Company	101	Sandra L. Garnett
36	Marathon Oil Company	102	Mary Lynn Callahan & Bob Ciulla
37	True	103	Helen Brown
38	True	104	Chris Kennedy
39	Washington Energy Resources	105	Elizabeth Dominick
40	Washington Energy Resources	106	Martha Thompson
41	ARCO Oil & Gas Company	107	Karen Hitchens
42	WEXPRO Company	108	Hope Meller
43	Mobil Exploration & Producing U.S. Inc.	109	Don & Gwen Wadsworth
44	Terry W. Donze, Petroleum Exploration	110	Tom Stefanik
45	Western Geophysical	111	Hannah Hinchman
46	Walter E. Johnson	112	Myrna Siegel
47	Powers Elevation Co., Inc.	113	M. Braun, C. Braun, M. Preston
48	Gene R. George, Geologist	114	Diana Stratton
49	Jerry L. Devin	115	Alice L. Sharp
50	Greg L. Day	116	Neil & Jennifer Miller
51	Hyland Enterprises, Inc.	117	Michael Lee Jones
52	KN Production Company	118	Jim Morehouse
53	Wyoming Heritage Society	119	Lisa Foster
54	Wyoming Heritage Society	120	Dan Klein
55	Sweetwater Economic Development Association	121	Lynda Fanning
56	Office of Planning and Development, Lincoln County	122	No Name
57	Uinta County Economic Development Commission	123	Virginia Upson
58	Rock Springs Chamber of Commerce	124	Martin & Millie Steinwand
59	John Hay, Rock Springs Grazing Association	125	Forrest Leland
60	Wyoming Farm Bureau Federation	126	Norman A. Bishop
61	Albany County School District One	127	Josephine D. Larson
62	Barlow & Haun, Inc.	128	Michael Evans
63	Barlow & Haun, Inc.	129	Barbara Parsons
64	AXIA Management	130	Robert S. Young, Jr.
65	First National Bank	131	Leonard Carlman
66	Louisiana-Pacific Corporation	132	Mal & Maggie Miller

APPENDIX 14-3

133	Ken Driese	172	Wyoming Wildlife Federation
134	Ted Kerasote	173	National Wildlife Federation
135	Gregory S. Eaglin	174	Stonefly Society
136	Frank & Lois Layton	175	Norman Gillespie, Wyoming Big Game Resource Association
137	Kirk Cunningham	176	Tom Christiansen
138	Donald Thompson	177	Medicine Wheel Alliance
139	Randy Webb	178	WWCC Archaeological Services
140	Neil & Jennifer Miller	179	Frontier Archaeology
141	Robert L. Nantkes	180	Tom Bell
142	Sigrid Mayer	181	University of Wyoming, Department of Geology & Geophysics
143	Jason A. & Linda E. Lillegraven	182	University of Wyoming, Department of Geology & Geophysics
144	Joyce Jansa-Corcoran	183	The Nature Conservancy
145	Loring Woodman	184	The Nature Conservancy
146	Chelsea Kesselheim	185	Dick Randall, Humane Society of the United States
147	Judy Little	186	Charmaine Refsdal
148	Larry Jansen	187	Dorothy Savage
149	Robert Hoskins	188	Wyoming Outdoor Council
150	Sue Miller	189	Sweetwater County Farm Bureau
151	Sharon Dooley	190	Wyoming Farm Bureau Federation
152	Carl M. Detwyler	191	Wyoming State Grazing Board
153	Harriet McGee	192	Garie Henry
154	Beverly Boynton	193	Big Sandy Conservation District
155	Dot Vali	194	Leonard Hay
156	Carlton Belz	195	Dave Hohl
157	Henry Phibbs II & Leslie P. Petersen	196	Randall R. Taylor
158	Daniel J. Dundon	197	William J. Thoman
159	John R. Swanson	198	David W. Freeman
160	Ken Meade	199	Chris Plant
161	Connie Wilbert	200	Clem L. Rawlins
162	Michael Cockrell	201	Ronald K. Smith
163	Scott Thomas	202	Ted Lapis
164	Scott Bohle	203	Craig Kesselheim
165	Bonnie Hofbauer	204	Rob & Martha Hellyer
166	Wendall Funk	205	Steve Wiles
167	Wilford Schreiber	206	Doug Samuelson
168	Luna Leopold	207	Douglas Woody
169	Trudy Dittmar	208	Lynn R. Jackman
170	John M. Good	209	Robert C. LeFaivre
171	Sweetwater County Wildlife Association		

Comment Responses

- 1-1 The only area that will be restricted is the upper portion of Currant Creek along Big Ridge and Currant Creek Ridge. This will not affect any proposed road.



RECEIVED

DEC 01 1992

DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
ROCK SPRINGS, WYOMING

Wyoming Division
1918 Evans Avenue
Cheyenne, WY 82001-3784

November 25, 1992

Green River Resource
Area, Resource Management
Plan and Draft
Environmental Impact
Statement

FILE: 405

Ms. Renee Dana
Team Leader
Bureau of Land Management
P.O. Box 1869
Rock Springs, Wyoming 82902

Dear Ms. Dana:

We have reviewed the above referenced Draft Environmental Impact Statement and have the following comment:

- 1 We are opposed to any alternatives which would restrict or hinder the Federal Highway Administration's ability to acquire rights-of-way and easements for highway projects under the guidelines of Section 317 of Title 23 U.S.C. Your preferred alternative (page 495) appears to further restrict the acquisition of rights-of-way from current practice.

If you have any questions please contact Rod Vaughn, at 772-2012.

Sincerely yours,

Galen W. Hesterberg
For GALEN W. HESTERBERG, P.E.
FREDERICK A. BEHRENS, P.E.
Division Administrator

- 2-1 Thank you for your comment.



2

United States Department of the Interior
NATIONAL PARK SERVICE
GRAND TETON NATIONAL PARK
P.O. DRAWER 170
MOOSE, WYOMING 83012



IN REPLY REFER TO:

L7619 (GRTE)

December 15, 1992

Memorandum

To: State Director, Bureau of Land Management, P.O. Box 1828, Cheyenne, WY 82003

From: *ACTING* Superintendent, Grand Teton National Park


Subject: Green River Resource Area Resource Management Plan and Draft Environmental Impact Statement

- 1 We have reviewed the subject document primarily for effects on Park resource values or conflicts with Park purposes. The alternative management plans presented in the comprehensive document do not pose any threat to the Park nor does there appear to be any impacts outside the Green River Resource Area.

Thank you for the opportunity to review this document.

Delaney Watt
Back Neckels


Comment Responses



3

United States Department of the Interior

NATIONAL PARK SERVICE
 ROCKY MOUNTAIN REGIONAL OFFICE
 12795 W. ALAMEDA PARKWAY
 P.O. BOX 25287
 DENVER, COLORADO 80225-0287



RECEIVED
 FEB 10 1993
 FEB 4 1993
 GREEN RIVER RESOURCE AREA

L7619 (RMR-PP)

Memorandum

To: Team Leader, Green River Resource Management Plan/Environmental Impact Statement, Bureau of Land Management, Rock Springs, Wyoming

From: Associate Regional Director, Planning and Assistance, Rocky Mountain Region

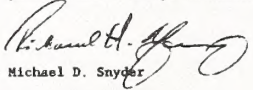
Subject: Green River Resource Area Draft Resource Management Plan and Environmental Impact Statement (DES 92/46)

1 The National Park Service (NPS) has reviewed the above-referenced document and offers the following comments.

Within the Green River Resource Area there are several potential ("sites being considered") National Natural Landmarks (NNLs). Enclosed are copies of the approximate locations and descriptions of the following potential NNLs: Ancient Lake Gosiute Sediments, Boar's Tusk - Killpecker Dune Field, Steamboat Mountain (Sweetwater County), Oregon Trail Sagebrush - Grassland (Sublette County), Continental Peak and Oregon Buttes (Fremont County) and Lone Tree Badlands (Uinta County). Also enclosed are updated informational materials on the NNL program.


Status as a potential NNL is granted to a site that contains one or more ecological or geological feature characteristic of a particular natural region, and is determined to be of national significance.

We would appreciate your consideration and efforts to preserve our Nation's natural heritage. If you have any questions regarding these potential NNLs, please contact Cheryl A. Schreier at (303) 969-2929.


 Michael D. Snyder


Enclosures

3-1 Thank you for the material provided. Our Preferred Alternative provides for management and enhancement for management of the resource values of Boars Tusk and the Killpecker Dune Field, Steamboat Mountain, and Oregon Buttes, and the proposed South Pass Historic Landscape. Wilderness Study Area management is also provided to the Killpecker Dune Field and the Continental Peak/Oregon Buttes areas. The Ancient Lake Gosiute Sediments and Lone Tree Badlands are not proposed for special management, but, all other proposed protective actions in the Preferred Alternative will be also applied to these areas.



4

DEPARTMENT OF THE ARMY
 CORPS OF ENGINEERS, OMAHA DISTRICT
 215 NORTH 17TH STREET
 OMAHA, NEBRASKA 68102-4978



REPLY TO
 ATTENTION OF

December 15, 1992

Planning Division

Mr. Ray Brubaker
 U.S. Bureau of Land Management
 Wyoming State Office
 P.O. Box 1828
 Cheyenne, Wyoming 82003

Dear Mr. Brubaker:

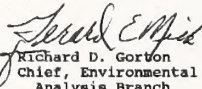
Thank you for the opportunity to review your Draft Resource Management Plan Environmental Impact Statement for the Green River Resource Area. Our brief comments follow.

Our major interest in these documents is regulatory (Clean Water Act) in nature. With this in mind, we have asked our Riverton, Wyoming Regulatory Office to review the documents. They asked us to pass along the following. Wetlands and other waters of the United States are discussed in the documents.

1 However, it is our belief that those documents do not adequately address the currently occurring and potential impacts the four alternatives would have on waters of the United States. The revised or final EIS should reflect this need. Please feel free to work with our Riverton Regulatory Office on such revisions. The point of contact in Riverton is Edwin Gooley, U.S. Army Corps of Engineers, Regulatory Office, P.O. Box 809, Riverton, Wyoming 82501, phone number (307) 856-5283.

Other than the above, we have no other specific comments to offer at this time. We would appreciate remaining on your mailing list for further documents pertaining to this proposal. If you have not already done so, please ensure that Mr. Gooley is on your mailing list also. If you have any questions concerning this letter or related matters, please contact Gerard Mick of this office, either at the above address or by telephone at (402) 221-4604.

Sincerely,


 Richard D. Gorton
 Chief, Environmental
 Analysis Branch
 Planning Division

4-1 The RMP EIS does address effects to water and water quality. Additionally, it is our intention, not to violate either the Clean Water Act or any of the Executive Orders pertaining to wetlands or waters. A 500-foot buffer around wetlands, riparian areas, and 100-year floodplains would be used for restricting surface disturbing activities. Wetlands, riparian areas, and 100-year floodplains themselves will be avoided and/or restricted to surface disturbing activity. As with the Executive Orders, exceptions can be granted under the proper authority and with the proper mitigation, but generally this can only be done if there is no practicable alternative (as is the case with many linear disturbances such as gas transmission pipelines). In most cases, there are practicable alternatives. No matter which alternative is reviewed (A, B, C, or Preferred), the minimum protection will still be to follow the laws and executive orders pertaining to wetlands, riparian areas, and floodplains. Additionally, through site specific activity planning and environmental analysis we would be able to provide the detail necessary to assess potential impacts of specific projects.



5

DEPARTMENT OF THE AIR FORCE
AIR FORCE CENTER FOR ENVIRONMENTAL EXCELLENCE (AFCEE)
REGIONAL COMPLIANCE OFFICE, CENTRAL REGION
828 S. GRIFFIN STREET, BOX 116
DALLAS, TEXAS 75202-0923

23 MAR 1993

Mr. Raymond Brubaker, State Director
Wyoming State Office Bureau of Land Management
P.O. Box 1828
Cheyenne, WY 82003

Dear Mr. Brubaker:

1 Thank you for providing us the opportunity to review and comment on your draft Resource Management Plan and Environmental Impact Statement for the Green River Resource Area, Wyoming.

Our review indicates that no Air Force military training routes presently exist directly within the study area mentioned above. Therefore, no potential conflicts are known to exist between the missions of our respective agencies. We have no specific comments to offer except to express concern for the affect your land management decisions might have upon the establishment of future routes.

Training routes and airspace requirements of the military do occasionally change, although it is not anticipated that significant changes to these routes will occur in the immediate future. Mission requirements, fuel costs, and environmental constraints all contribute to decisions made in locating a military training activity. Because of general aviation and population pressures, low altitude, high speed flights are relegated to those areas least accessible and sparsely inhabited. Therefore, we would appreciate your full consideration on how the planning and management decisions of your agency might adversely affect the use of low altitude airspace by the Air Force.

As the Air Force's regional point of contact for such matters, we are available to assist in establishing liaison between your office and the appropriate Air Force activities should a conflict ever arise. We hope this information is useful in your planning process. Thank you for the opportunity to review the document provided. I look forward to the continued communication with your office. If additional information is needed, please contact me at (214) 767-4668.

Sincerely,

Raymond L. Bruntmyer

RAYMOND L. BRUNTMYER
Regional Compliance Officer

cc: HQ USAF/CEVP
Team Leader

5-1 Thank you for your comment. We have added your name to our mailing list and look forward to working with you in the future.

Comment Responses

6-1 Thank you for your comment.



6

United States Department of the Interior

BUREAU OF MINES
Intermountain Field Operations Center
P.O. Box 25086
Building 20, Denver Federal Center
Denver, Colorado 80225

January 26, 1993

Memorandum

To: Renée Dana, Team Leader, Bureau of Land Management,
Rock Springs District, P.O. Box 1869, Rock Springs,
Wyoming 82902

From: Supervisory Physical Scientist, Intermountain Field
Operations Center

Subject: Review of Resource Management Plan and Draft
Environmental Impact Statement for the Green River
Resource Area, Rock Springs, Wyoming

1 As requested by Ray Brubaker, State Director, Bureau of Land Management, personnel of the U.S. Bureau of Mines reviewed the subject document to determine whether mineral resources or mineral-production facilities would be adversely impacted by the proposed management plan. The document pertains to an evaluation of alternative land use plans for the management of public lands and resources administered by the Bureau of Land Management in the Green River Resource Area, in parts of Sweetwater, Lincoln, Sublette, Fremont, and Uinta Counties.

A wide variety of leasable, locatable, and saleable mineral resources occur in the Resource Area, many of which have been mined and continue to be mined. Throughout the subject document, mineral resources are identified and discussed. Included in the discussion of each alternative is the effect of that alternative on mineral resources and their development. Where applicable, the effect on minerals from the development of other resources, as well as the effect of mineral resource development on other resources, is described. We believe that minerals have been adequately discussed in the document.

If you have questions concerning this review, please contact Jeanne Zelten at (303) 236-0451.

Ellen K. Peterson
for Mark H. Hibbsman

jez/plt



United States
Department of
Agriculture

7

Forest
Service

Intermountain
Region

324 25th Street
Ogden, UT 84401

Reply to: 1950

Date: FEB 24 1993

Ms. Renee Dana, Team Leader
Bureau of Land Management
Rock Springs District
P.O. Box 1869
Rock Springs, WY 82902

Dear Ms. Dana:

This letter contains Forest Service comments on the Draft Environmental Impact Statement (EIS) for the Green River Resource Area Resource Management Plan. These comments specifically reflect the concerns of the Flaming Gorge District Ranger, Ashley National Forest.

1 The Draft Environmental Impact Statement (DEIS) makes little mention of the Flaming Gorge National Recreation Area (NRA) and the fact the BLM administers grazing and mineral rights on the NRA. Although the 90,517 acres of federal land which comprise the Wyoming portion of the NRA are few compared with the number of acres within the Green River Resource Area, the NRA does provide unique opportunities to manage the adjacent BLM lands with different emphases.

2 Grazing - The DEIS does not mention that BLM administers grazing on NRA lands. Specific questions related to the document include:

- * Page 32, 33 - Do active preferred Animal Unit Months (AUM's) include NRA lands?
- * Page 34 - Does existing forage reservation for wildlife and wild horses include any use on NRA lands?
- * Page 37 - Does the split of Henry's Fork into three allotments include the NRA lands in the allotment with pastures E & F?
- * Page 145 - "Unallotted forage on public land (15,100 acres) scattered throughout the planning area would be allocated on a case-by-case basis ..." "Grazing Allotment and Land Status" Map C in Volume III indicates the NRA land is "unallotted". In this DEIS, does the BLM consider the NRA land as unallotted?
- * Page 371 Map 62 Proposed Fence Locations - does not indicate the fence along the Highway 530 corridor which is being constructed as the Wyoming Highway Department improves and upgrades Highway 530.

3 Minerals - The development of leasable mineral rights (including Trona leases) or other mining operations is prohibited within the NRA. The Act that established the NRA withdrew the area from such development or use. The text needs to clarify that BLM manages the mineral resources under the NRA and specify how NRA regulations affect the underlying mineral resources. Also the mineral maps do not identify the NRA.



Caring for the Land and Serving People

FS-6200-108/4/88

7-1 Yes, you are correct; the grazing and mineral resources on the Flaming Gorge National Recreation Area (NRA) are administered by the BLM. The grazing on the NRA is administered through a Memorandum of Understanding and the BLM is responsible for leasing of all federal minerals in consultation with the Forest Service. Decisions in the RMP are directed at only BLM-administered lands. In addition, BLM has worked closely with the NRA on projects related to recreation, tourism, and bike trails.

7-2 The BLM administers grazing on the NRA lands through a memorandum of understanding.

- * Page 32 & 33 - The active preference does contain AUMs for NRA lands.
- * Page 34 - Yes, forage reservations are included for wildlife on NRA lands, although no forage reservations are made for wild horses.
- * Page 37 - Yes, Pastures E and F do contain NRA lands.
- * Page 145 - The unallotted forage on public land does not include the NRA lands. This is an error on Map C and will be corrected in the Final.
- * Page 371 Map 62 - Map will be revised.

7-3 Section 5 of Public Law 90-540 which established the Flaming Gorge National Recreation Area states that the lands are withdrawn from mineral location, entry, and patent under the mining laws, but the Secretary of the Interior with the consent of the Secretary of Agriculture and subject to such conditions as may be prescribed, may permit the removal of leasable minerals. Reference July 28, 1993 meeting between Forest Service and BLM Rock Springs District.

Due to limitations with map scale and map clarity, we did not distinguish between federal ownerships on all maps. We do have this information in our MSA.

Comment Responses

Ms. Renee Dana

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- * Map 11 page 140 Existing Withdrawals
- * Map 14 page 155 No Lease Areas
- * Map 15 page 156 No Surface Occupancy Areas
- * Map 16 page 157 Seasonal Restriction Areas
- * Map 18 page 159 Coal Sodium Potential
- * The entire NRA is shown as a "Surface Disturbance Restriction Area" on Map 17 page 158

- 4 **Recreation/Off-Road Vehicle (ORV)/Visuals** - The DEIS does not take into account the uniqueness of Flaming Gorge NRA and the potential of adjacent federal lands managed by the BLM in the Green River Resource Area. This is especially critical in three areas: 1) recreation opportunities, 2) ORV policy and coordination between agencies, and 3) visual resource management direction.

Recreation Opportunities - the lands adjacent to the NRA are more likely to provide greater recreational opportunities because of their proximity to a known recreation site. With this in mind, a Recreation Use Area should be established on BLM land between the NRA and Highway 530 on the west and the NRA and Forest Road 106 on the east.

ORV - if a specially designated buffer zone was created around the NRA, this could ease the potential conflict between the Ashley National Forest ORV policy on the NRA which restricts ORV's to designated routes and the proposed BLM policy of vehicular travel on existing roads and trails on most of the land adjacent to the NRA. Coordinated ORV policies between the Forest Service and the BLM would be desirable in this area. Currently, an ORV user traveling over a BLM trail would be legal until he crosses the NRA boundary (which is often not identified) at which time he would be in violation of Forest Service policies.

Visual Resource Management (VRM) - Map 22 Visual Resource Management, Page 175 does not reflect the recreation potential of the area around Flaming Gorge, the proposed Back Country Byways (Map 20 page 171) and proposed wilderness study areas. At a minimum, the corridors along Highway 191 and Highway 530 need to be designated VRM Class II (blend into the natural landscape and retain the existing character of the landscape) due to the tremendous number of visitors who travel these corridors. A good use of VRM Class II would also include the proposed Back Country Byways and the wilderness study areas.

- 5 **"Greenbelt"** - On page 170 of the DEIS it states, "The establishment of a 'greenbelt' along the Green River from Fontenelle Dam to Flaming Gorge Reservoir (approximately 3,200 acres) would be supported." The Forest Service would like to see this opportunity expanded. The City of Green River is quickly moving ahead on the city's portion of this hiking/biking linear park. Resource Area Recreation Staff and Forest Service staff have discussed the possibility of mountain bike loop trails in Sage/Current Creek area with linear trails providing access to the Flaming Gorge Reservoir. Currently, the City of Green River has plans for the linear park to end at FMC park on the southeast edge of the city. A possible route for connecting the city's bike path to the Firehole/Current Creek country includes the use of an existing two-track road which begins at FMC

Ms. Renee Dana

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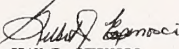
park and provides access to Firehole Road. From there, existing paved and gravel roads would lead to a variety of potential opportunities on the east side of the NRA and adjacent BLM lands. If the East Side Highway becomes a reality, Intermodal Surface and Transportation Efficiency Act of 1991 (ISTEA) funds could be used to develop a bike path adjacent to the new road, further enhancing the opportunities for bicyclists. Although the two-track road from FMC park to Firehole would not be along the river, this path is a viable alternative to the challenges of cliffs along the upper reservoir and the need to obtain a new Rights-of-Way (ROW) through checkerboard ownership.

- 6 **Land Ownership** - Most Maps do not define the NRA boundary. The land ownership depicted for T16N R107W on the NRA is not correct on Map 2 page 10 nor Map A Land Status in Volume III. The enclosed copy of Map A illustrates the correct National Forest administered lands.
- 7 **Rights of Way** - Map 10 page 138 indicates Current Creek drainage is an exclusion area for ROW and Sage Creek drainage is an avoidance area for ROW (text page 195). The proposed East Side Highway would provide an opportunity to improve watershed values in Current Creek and Sage Creek drainages. Also, the hard surface road would be located closer to the reservoir and a greater portion would be on the NRA compared to the existing gravel county road which is primarily on BLM lands. However, depending on the actual location of the road bed, sections may be located within the BLM portion of Current Creek. The Forest Service would like some assurances that if this road becomes a reality, and if the preferred Current Creek location is on BLM land, that the "exclusion area for rights-of-way" in this area would not prevent the construction of this higher level road. (The proposed route during this early stage is for the road to be located on the NRA with a bridge crossing the creek near the mouth of Current Creek.)

- 8 **Area of Critical Environmental Concern (ACEC)** - Regarding Pine Spring Extension (6030 acres) Page 191: please clarify if grazing would be allowed to continue in this area if it remains an ACEC and/or if Congress approves the Wilderness Study Area (WSA) recommendations and the area is designated Wilderness.

We appreciate the opportunity to comment on the DEIS for the Green River Resource Area. After you have had a chance to review these comments, we suggest you contact Stephen Sams, District Ranger, Flaming Gorge Ranger District, Manila, Utah, (801) 784-3445 to arrange a meeting to discuss items of mutual management interest.

Sincerely,


GRAY F. REYNOLDS
Regional Forester

Enclosure

cc:
Ashley NF

DHoefer:bj(2-23)

- 7-4 The BLM-administered lands adjacent to the Flaming Gorge NRA provide the public with many dispersed recreation opportunities such as hunting, biking, camping, auto touring, and wildlife viewing. Most of the recreational activities are different than those which occur on the NRA. The area is managed to provide the visitor the opportunity for isolation with the natural environment, to have moderate challenge and risk, and to use outdoor skills. BLM has worked closely with the NRA on projects related to recreation, tourism, and bike trails; and will continue to work jointly in the future.

Coordination would continue between the BLM and Forest Service for off-road vehicle designations. When the Green River RMP is finalized, we will begin an off-road vehicle designation activity plan. All affected users will be involved. Designations will be made that incorporate the needs of adjacent landowners and protect resource values.

The lands adjacent to the NRA are being managed for VRM II and III values. Scenic quality and land use activities determine the VRM classifications. The most outstanding characteristics are usually classified as VRM II areas. VRM III areas usually have some outstanding features and some features that are fairly common to the general area. Developmental activities must be mitigated to conform to the VRM classifications. Again, coordination would continue on our adjoining lands.

- 7-5 BLM has been involved with the development of the Green Belt. See response to comment 7-4.

- 7-6 Thank you. These corrections will be made.

- 7-7 The exclusion area for rights-of-way in relation to the Currant Creek drainage is only in the canyon area (steep slopes) of the upper portion of Currant Creek. This would have no affect to the east side highway if it were to be built.

- 7-8 Grazing would be allowed to continue within the expanded Pine Springs ACEC under the prescriptions of this Plan. If Congress approves designation of the Devil's Playground/ Twin Buttes WSA as a Wilderness Area, grazing will be allowed to continue. As presently proposed, the existing and portions of the expanded Pine Springs ACEC are not in the WSA.

8

FEDERAL ENERGY REGULATORY COMMISSION
WASHINGTON, D. C. 20426

OFFICE OF PIPELINE AND PRODUCER REGULATION

IN REPLY REFER TO:
OPPR/DEMEA/ECB
Green River Resource
Management Plan, Draft
Environmental Impact Statement

FEB 26 1993

Renée Dana, Team Leader
Bureau of Land Management
Rock Springs District
Highway 191 North
Rock Springs, Wyoming 82901

Dear Ms. Dana:

The Federal Energy Regulatory Commission (FERC) has reviewed the Draft Green River Resource Management Plan Environmental Impact Statement (RMP EIS) issued November 30, 1992. We offer the following comments and concerns for your consideration in the preparation of the Final RMP EIS.

1 The Final RMP EIS needs to acknowledge the Altamont natural gas pipeline project that will cross the Green River Resource Area. A Final EIS was prepared, with the Bureau of Land Management (BLM) participating as a cooperating agency, for the Altamont project. The FEIS was issued in May 1991 and is on file with your office. Based on the findings of this environmental analysis, and with the endorsement of the BLM, Altamont Gas Transmission Company was granted a FERC Certificate of Public Convenience and Necessity in August 1991.

2 BLM is also a signatory to the Programmatic Agreement (PA) issued on January 24, 1992 (attached), which evidences that FERC and BLM have satisfied their Section 106 responsibilities for the Altamont project and are continuing to review the various cultural resource studies submitted to both agencies for review and approval.

3 We are concerned that the Draft RMP EIS does not address or even reference the Altamont pipeline route, the Altamont FEIS, FERC's certificate, or the PA, all of which BLM has been involved with and endorsed. It is unclear whether the Altamont project was taken into consideration during your analysis. Some of the proposed resource and land use prescriptions could conflict with the construction of this certificated project, most notably in the vicinity of the proposed South Pass ACEC. Please address these potential conflicts in the Final RMP EIS.

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-2-

If you have any questions, please contact Mr. Laurence J. Sauter, Jr. of my staff at (202) 208-0205.

Sincerely,



Robert K. Arvedlund, Chief
Environmental Compliance and
Project Analysis Branch

cc: Lillian Stone
Darrell Barnes
Jim Roseberry

Comment Responses

8-1 BLM acknowledges the proposed Altamont natural gas pipeline project and its cooperation in the FERC EIS. FERC is also aware of the controversy and public concern over a pipeline and de facto establishment of a corridor through South Pass. Because of the public concern, BLM re-evaluated Altamont's proposed route through South Pass. BLM concluded that impacts were mitigable and issued its decision to allow routing through South Pass on July 29, 1994. However, the BLM decision was appealed to IBLA by the Wyoming Outdoor Council, the Wyoming Independent Producers, and the National Trust for Historic Preservation. The future of the Altamont pipeline will be influenced by the IBLA decision. The Green River RMP addresses facilities and rights-of-way.

8-2 We do not agree that the Programmatic Agreement (PA) among the FERC, the Advisory Council on Historic Preservation, and the BLM constitutes satisfaction of Section 106 responsibilities; rather the PA sets forth an agreed-upon procedure for satisfying Section 106 responsibilities of the Federal agencies under the National Historic Preservation Act. Much in the way of historic property recordation, evaluation, and mitigation of adverse effects still needs to be done to satisfy terms of the PA and thus to satisfy Section 106 responsibilities.

8-3 Altamont was considered in the Assumptions and Analysis Guidelines developed for the impact analysis in Chapter 4 of the Final EIS. It was not specifically listed by name but is a part of the assumptions presented on page 460 of the Draft EIS. The Altamont route is not being considered as a designated corridor.

FERC certification does not constitute issuance of a BLM right-of-way grant. The BLM has participated with the FERC in the development of an Environmental Impact Statement. The Bureau must issue its own decision on final route selection across BLM-administered lands. See also response to comment 8-1.



February 25, 1993

Ms. Renee Dana
Team Leader
P.O. Box 1869
Rock Springs, Wyoming 82902

Dear Ms. Dana:

We have completed our review of the Draft Resource Management Plan Environmental Impact Statement (DEIS) for the Green River Resource Area, Wyoming. We are responding on behalf of the U.S. Public Health Service.

- 1 It is stated on page 494 in the discussion on fire that "increased activity may develop greater exposure to incidental hazardous waste during suppression activities." We note on the following page that any spills and unauthorized dumping on the public lands would be immediately cleaned up by BLM or the responsible party to reduce resource impacts. Are written contingency plans in place for implementation if a spill or an emergency encounter with hazardous wastes occurred? How significant is the problem of unauthorized dumping of hazardous waste on project lands, and what is being done to mitigate this problem? Also, it is stated that lands would be inspected prior to transfer or acquisition to protect the public from contact with hazardous materials. However, the DEIS does not elaborate on who would actually conduct the inspections or the methods to be used.
- 2 Under the Preferred Alternative, about 463,000 acres of federal coal lands within the Coal Development Potential Area would be open to further consideration for coal leasing and development. Also, many acres will be open to oil and gas leasing subject to appropriate restrictions. With a management project of this magnitude, as described in the DEIS, we agree that there is potential for significant environmental degradation if established policies and procedures are not effectively and timely implemented and monitored. Therefore, ensuring the strict adherence to appropriate licensing protocols, implementation of Best Management Practices and planned mitigation of potential impacts associated with exploration, drilling, mining and transport, will be critical to minimizing unnecessary air, land, and water impacts, and to optimize the safety of workers and the public.

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Page 2 - Ms Dana

- 3 Thank you for the opportunity to review and comment on this draft document. Please ensure that we are included on your mailing list to receive a copy of the Final EIS, and future DEIS's which may indicate potential public health impacts and are developed under the National Environmental Policy Act (NEPA).

Sincerely yours,

Kenneth W. Holt, M.S.E.H.
Special Programs Group (F29)
National Center for Environmental
Health

Comment Responses

- 9-1 In the discussion of environmental consequences of fire, exposure to incidental hazardous waste is based on historical incidence centered around burning wire insulation off spools of copper wire and is documented through individual fire reports.

A written contingency plan for emergency release of hazardous materials is in use on the Rock Springs District.

Unauthorized dumping of hazardous materials occurs intermittently on BLM-administered lands. When such dumping is discovered, it is reported according to the emergency response process outlined in the National Oil and Hazardous Substances Pollution Contingency Plan (40 CFR 300) and is handled according to regulation by the Resource Conservation and Recovery Act (RCRA) and/or Comprehensive Environmental Response Compensation and Liability Act (CERCLA).

Inspection of public land prior to acquisition or disposal is handled jointly through both the realty and hazardous materials programs in BLM.

- 9-2 Thank you for your comment.

- 9-3 You will remain on our mailing list for this and future documents.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION VIII
999 18th STREET - SUITE 500
DENVER, COLORADO 80202-2466

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MAR - 4 1993

Ref: 8WM-EA

Renee Dana, Team Leader
Bureau of Land Management
Rock Springs District
P.O. Box 1869
Rock Springs, Wyoming 82902

Re: Draft - Resource Management Plan
Environmental Impact Statement (DEIS)
for the Green River Resource Area

Dear Ms. Dana,

In accordance with our responsibilities under the National Environmental Policy Act (NEPA) and Section 309 of the Clean Air Act, the Region VIII office of the Environmental Protection Agency (EPA) has reviewed the DEIS for the Resource Management Plan for the Green River Resource Area (RMP) and offers the following concerns and comments for your consideration as you complete the final Environmental Impact Statement (FEIS).

- 1 The EPA's primary concern with this document is its discussions of Environmental Consequences. The disclosure of environmental consequences of the analyzed alternatives is primarily confined to discussions of changes in accomplishment in BLM programs caused by implementing the subject alternative rather than disclosure of the effects of implementing the alternative on the physical environment. Such analyses determine effects to resource management program targets and local economics rather than effects to physical resources such as air and water quality, biologic components or ecosystems. When physical effects on the environment are discussed, it is in the form of either generalized statements or uninterpreted data. Although we recognize that site-specific analyses will be performed in subsequent project level documents, this need for future analyses does not preclude the obligation to complete first level screening of environmental effects in a programmatic document such as this. A programmatic NEPA document such as this needs to contain enough environmental information to allow the decisionmaker to understand what the impacts of the entire program will be. Only then can the decisionmaker make a reasoned decision on whether the program should go forward. As currently written, the document does not adequately display environmental effects of the proposed action.

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- 2 Although projects anticipated to implement the revised RMP are listed and there is much discussion of activities such as past projects, historic events and overgrazing by livestock (including wild horses), a Cumulative Effects analysis of past and projected activities was not completed. NEPA requires that cumulative effects be addressed as a summary of the individual effects of both the proposed action and any other "reasonably foreseeable" projects - including those generated by other entities and occurring on other ownerships. The Cumulative Effects analysis should summarize the site specific impacts of past, current and proposed projects and occurrences upon physical ecological resources, such as water quality, air quality, vegetation, wildlife, etc.

- 3 The information and data that is presented in the document is not displayed in a format that supports conclusions or decisions to be made. For example, Appendix 9-9 appears to reflect a knowledge of current rangeland conditions and establishes a positive direction for the future grazing management. There is much narrative and data in the DEIS and associated appendix material but the existing range condition and the physical, environmental effects of proposed levels of grazing are not summarized, nor does the document describe what constraints are currently placed on grazing.

The twin goals of NEPA are to inform the public and disclose anticipated effects of federal projects. These goals are not met without a disclosure of effects on the physical environment of the actions, including the effects of any mitigating activities. Council on Environmental Quality regulation (Section 1508.8) define effects and impacts as synonymous and continue:

"Effects includes ecological (such as the effects on natural resources and on the components, structures, and functioning of affected ecosystems), aesthetic, historic, cultural, economic, social, or health, whether direct, indirect, or cumulative."

Therefore, the CEQ regulations require disclosure of economic and social effects, but not to the exclusion of disclosure of the physical, ecological effects.

- 4 In summary, the Final EIS must disclose the physical effects of all activities, including the effects of any actions proposed as mitigation that are an incorporated part of the alternatives. It must also contain a cumulative effects analysis.

Comment Responses

10-1 The potential effects on various environmental components were carefully considered when the RMPEIS was prepared. If we determined that there would be no effect to a resource or use, it was not discussed in detail in the document. Also, Appendix 12 contained the impacts that were common to all alternatives, and this was not repeated in the Environmental Consequences section. Activities that were regulated by federal or state agencies to prevent adverse environmental effects did not have effects projected. Existing information was utilized and additional inventories for more specific and up-to-date information were not conducted. Since the level of information for some environmental components was generalized, so were the consequences. Site specific analyses should help provide some of the missing information. However, we do agree that certain sections need clarification of effects and have updated that chapter in the RMP Final EIS to reflect this.

10-2 We have tried to clarify the cumulative impact analysis section. However, since this is a broad-base document and most specific impacts are determined at the activity level, these tend to be somewhat general in nature. See response to comment 10-1.

10-3 Some of the information is on file in the Resource Area Office in the Management Situation Analysis (MSA) and not all information has been presented in the document. However, several changes have been made with regard to rangeland information and some of the management prescriptions. Please note these updates in the text.

10-4 See responses to comments 10-1 and 10-2.

Comment Responses

- 10-5** Changes and clarifications have been made in the document and additional information is available at the Resource Area Office. See responses to comments 10-1 and 10-2.

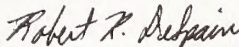
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- 5** Based on the procedures EPA uses to evaluate the potential effects of proposed actions and the adequacy of the information in the DEIS, the Preferred Alternative identified by the draft Resource Management Plan for the Green River Resource Area will be listed in the Federal Register in the category EC-2. This means that the review has identified environmental impacts that should be avoided in order to fully protect the environment and that the DEIS does not contain sufficient information to fully assess environmental impacts that should be avoided in order to fully protect the environment.

Enclosed are the more detailed comments on the assessment upon which the issued category was based upon and which are a part of our review. They should, therefore, be incorporated into your final document.

We appreciate your interest in our comments at this stage and for this type of project. Please contact Larry Lindner (303/293-1695) of my staff if you have any questions about these comments.

Sincerely,



Robert R. DeSpain, Chief
Environmental Assessment Branch
Water Management Division

Enclosure(s): (3)

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Detailed comments by
Region VIII of the Environmental Protection Agency
on the
Green River Resource Area
RESOURCE MANAGEMENT PLAN
and
Draft ENVIRONMENTAL IMPACT STATEMENT

I. GENERAL COMMENTS

- 6** The document contains much data on what will occur with approval of the Resource Management Plan. This is mainly presented in the form of projects to be accomplished. It is difficult to find either a quantification of the effects the actions will have on specific components of the environment (i.e., water quality, air quality, etc.) or the standards that will be met as actions are implemented. EPA considers as necessary, language specific enough to provide confidence of what will be done and to what quality. This is necessary both to the review of the document and to provide consistent direction to those charged with implementing projects and interpreting the intent of the RMP. Either the Resource Management Plan direction should be explicit or the document should describe the process that would be followed before a change to commitments made in the document would occur. Otherwise, there may not be enough control to effectuate the proposed intent of the document.

- 7** Although there are statements that could be used as quality standards listed in various parts of the document, they are not consolidated in a composite list or labeled as such and would thus be difficult for plan implementers to find and use. For example, Table 2-1 contains examples of what are, in effect, standards under the Management Actions section. However, this table is not comprehensive. The only standards in table 2-1 for Livestock Grazing Management are to not exceed recognized active preference (page 32) and that salt blocks would not be placed within 500 feet of live water (page 37). Without some form of quality requirements, such as Standards and Guidelines, thresholds not to be exceeded, restrictions upon the way activities would be accomplished or uses that would be allowed; reviewers cannot effectively comprehend the effects of implementing the alternatives. Baseline data and performance standards need to be an integral part of the plan to disclose existing conditions and anticipated effects of proposed activities.

Throughout the document, there are many examples where flexible terminology such as "where feasible", "where necessary", etc. are used as qualifiers that could be used to effectively negate commitment to direction. The EPA understands agency desires for flexibility. However, as

- 10-6** We feel that the document provides enough guidance to accomplish the proposed plan objectives. We have tried to clarify the objectives and actions in the final document. Water and air quality standards are found in Chapter 3. The purpose of the land use plan is to provide general guidance and direction on what kinds of actions would be allowed to occur and under what conditions, in various kinds of areas. Projects were mostly identified for implementation and analysis purposes. Actual projects will be implemented through site-specific activity planning and further NEPA analysis. Maintenance and amendment processes are in place that would provide steps to be followed prior to changing plan decisions.

- 10-7** Several manuals are in place that provide the standards and guidelines for management of various resources. Most of these were not repeated in the document but are applied in consideration of impacts and during the site specific activities. Application of these guidelines to achieve a goal, or provide a mitigation, such as with the placement of salt blocks, are presented in the RMP. Much of the information needed for implementation is on file in the Resource Area office; thus, a general overview was provided for the document.

10

currently written, this document is more suggestive than directive.

II. PAGE-SPECIFIC COMMENTS

A. DESCRIPTION OF THE ALTERNATIVES

Page 17 - Alternative Formulation

The document states that, "The preferred alternative selected may be one of the initial alternatives considered...., it may be made up from portions of two or more of those alternatives, or it may be a completely different alternative." Question 1a of CEQ's Forty Questions and Answers About the NEPA Regulations cautions that "A decisionmaker must not consider alternatives beyond the range of alternatives discussed in the relevant environmental documents." The page 17 statement is therefore all right as long as the scope and effects of the "completely different alternative" occurs within the continuum of the fully analyzed alternatives. EPA's specific concern that this guidance be followed is to ensure that the anticipated environmental effects of the selected alternative are displayed within the final EIS.

9 A related concern is that, on occasion we have been presented with documents where the Record of Decision has been used to add substantial new information and additional analysis. The appropriate document for the introduction of substantial new information and analysis is the Supplemental Draft EIS. When a Supplemental Draft EIS is used, the public is provided full information on the alternatives and has adequate opportunity to comment. This is often not the case when much new information, analyses, alternatives and mitigation measures are included in the Record of Decision.

10 THE PREFERRED ALTERNATIVE

Page 128 - Forest Resource Management

The intent and substance of the statement "From February 1 to July 31, there would be no logging activity on 22 acres within 2 miles of sage grouse nesting sites and" is confusing. A two mile radius around only one sage grouse nesting site or one raptor nest would include much more than 22 acres.

11 Page 129 - Hazardous Materials and Other Hazards

The following statement, which appears in all four proposed alternatives, is incorrect:

"Any produced water pit or drilling fluid pit that shows indications of containing hazardous wastes would be tested for the TCLP constituents and if analysis proves positive, the fluids would be disposed of properly."

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12 The Resource Conservation and Recovery Act (RCRA) exempts from federal regulation as hazardous wastes, certain wastes associated with the exploration and production of oil and gas, even when they would be classified as such when generated differently. This exemption extends to drilling fluids. In other words, even if the TCLP shows exempted wastes to be hazardous, they may not be regulated as such. Since there is generally a mixture of exempt and non-exempt wastes produced or used in oil and gas operations, operators must ensure that wastes that are RCRA exempt are kept physically separate from those wastes that are not. Enclosed is a document that provides additional clarification on this issue.

13 Page 136 - Livestock Grazing Management - Management Actions

The grazing data appears to lead to conflicting conclusions. The preferred alternative will limit livestock grazing to "....not exceed the recognized active grazing preference." Although we could not find a definition for "active grazing preference" in the Glossary, the narrative (pages 370 and 407) and Appendix 9-6 (Implementation of Grazing Use) reflect that it is the maximum use allowed by the grazing lease. With this assumption, and the assumption that the "5-year use (AUMs)" column reflects the average use over the past 5 years, a review of the chart indicates that grazing levels have been either lower than (42 allotments) or equivalent to (36 allotments) the maximum use allowed. Allotment 13022 either contains a typo or grazing preference was exceeded dramatically.

14 The document does not provide particularly useful information on the existing condition of the rangeland. The categories C, I and M apparently are the most substantive information, but these categories may be assigned for reasons other than physical range conditions. Although Appendix 9-9 groups allotments according to existing conditions, it apparently reflects conditions improved due to recent use at less than the Active Preference level. A review of Appendix 9-1 and 9-6 shows that five of the 36 allotments where use was equivalent to the maximum permitted use are classified as "I" allotments (needing improvement) and 29 are classified as "C" allotments (custodial). This leads to a conclusion that 34 out of 36 allotments where existing use is equivalent to permitted use are currently considered marginal for one reason or another. In support of this conclusion, page 513 indicates that "Localized overuse of forage would continue and could increase if full livestock grazing preference is achieved. Riparian areas could decline over the long term." The reviewer may therefore assume that the "Active Grazing Preference" level is higher than the resource can accommodate. Whether the maintenance of existing, below preference grazing levels is

Comment Responses

10-8 This has been done.

10-9 Thank you for your comment.

10-10 There are 22 acres that are timbered within a 2-mile radius of a sage grouse nesting area.

10-11 BLM appreciates that exemptions have been given to certain wastes generated by the oil and gas industry as stipulated in the Resource Conservation and Recovery Act of 1976 and the Comprehensive Environmental Response, Compensation, and Liability Act of 1980. These exemptions are too complex in detail to be listed in the Resource Management Plan for the Green River Resource Area but are on file in BLM offices.

The statement on p. 129 has been amended in the final: "Any produced water pit or drilling fluid pit suspected of containing hazardous, non-exempt wastes will be tested for TCLP constituents. Fluids in these pits will be disposed of properly if the TCLP procedure indicates that such constituents are present and that their origin involved hazardous wastes that are non-exempt from environmental laws such as the Resource Conservation and Recovery Act."

10-12 See response to comment 10-11.

10-13 By BLM policy and regulation, the active preference level must be maintained until site specific monitoring and evaluation of Allotment Management Plans indicate that the preference level has changed. The Resource Area is conducting the monitoring and evaluations to make the determinations for active preference. Appendix 9-2 lists the allotments by priority for monitoring, evaluation, and AMP development to determine active preference. The 5-year average of 180,362 AUMs was determined through analyzing actual use reports received by permittees by allotment. This use level represents 57% of the active preference. This cannot be applied across the board to each allotment. The typo for allotment 13022 has been corrected. The actual use is 5,800 AUMs.

10-14 The BLM does lack information on the existing condition of the rangeland. The information presented in the categorization of allotments was based on the professional judgement of range conservationists working in the area. As a result of comments, the RMP will be revised to include guidelines for utilization limits on riparian areas based upon their proper functioning condition and identify desired plant community objectives. Grazing use will be based on resource condition and the monitoring over time.

10

adequate or whether existing concerns could be alleviated by more intensive management practices is not disclosed in the document. The vague information presented causes reviewers to analyze whatever data is presented, and making the best conclusion they can from it.

- 15 The wording of the Preferred Alternative's "Management Actions" section, as cited above, appears to consider a return to the active preference level without additional environmental analysis as being left to the manager's prerogative. The process to be used to increase levels to the Active preference is not clear. While the analysis does not propose to exceed the Active Preference level, neither does it disclose the environmental effects of past, current or potential levels of grazing or the effects of returning to the Active Preference level.

- 16 In summary, the effects on the physical environment of various grazing level alternatives and options are confusing and not adequately disclosed in the document. The final EIS must disclose more clearly the effects of grazing.

- 17 Page 155 - Minerals Management
Maps 14, 15 and 16 appear to show areas where apparently mutually exclusive conditions overlap. The maps show that No Lease would be granted (map 14); No Surface Occupancy would be allowed (map 15); and Seasonal Restrictions would be placed (Map 16) in the same physical area and under the same (in this case - the preferred) alternative. Are the maps incorrect? If not, why is there overlap?

- 18 Page 180 - Wild Horse Management
The current wild horse populations as depicted in Table 2-17 differ from those shown in Table 2-19 on page 183. The Salt Wells area appears to be overstocked by more than a factor of two according to Table 2-17. The analysis did not disclose the environmental effects of the existing level of population on the soil, water and vegetation of the area. Although the narrative on page 182 alludes that wild horse management plans have yet to be developed, the draft EIS did not define a timeframe in which this future analysis will be completed (Similarly, page 178 does not prescribe a timeframe for the initiation of a proposed "area-wide water quality monitoring program"). Table 3-22 (page 427) reflects that Objective Population levels of big game are currently being exceeded. With the potential for significantly adverse environmental impacts from inflated population levels - whether wildlife, wild horses or cattle - it would seem appropriate to complete site specific, cumulative effects NEPA analysis for these management plans. The total impact of both wild animal and domestic livestock stocking levels must necessarily be limited by the habitat's

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ability to support them without damage or the resource will suffer over the long term.

- 19 Page 182 - Wildlife Management - Management Objectives
This section states that: "The objective for management of wetlands/riparian areas would be to achieve a healthy and productive condition ... in concert with range, watershed, and wildlife needs" and that "The no net loss of wetlands policy would apply." However, Appendix 9-4 identifies seven proposed spring developments and one sheep development (Page 497 discusses only 2 spring developments) as well as numerous reservoirs. The DEIS does not display the effects of proposed water development projects on either wetlands or springs. EPA opposes the further development of natural springs due to the loss of rare, natural aquatic resources during the process. The final EIS must disclose the effects of the preferred alternative on wetlands.

B. AFFECTED ENVIRONMENT

Page 344 - Air Quality

- 20 The DEIS states that "nonattainment areas are areas where the National Standards are already being exceeded." This is the case for some areas. However, some areas are designated as nonattainment due to a past violation of a National Ambient Air Quality Standard (NAAQS). Violations need not be occurring at the present time for an area to be considered nonattainment. This should be clarified.

The DEIS goes on to state that "this (the Total Suspended Particulate standard) is no longer being enforced and the status of these areas as nonattainment is uncertain." The areas discussed in the DEIS fit into the category described above. They are currently designated nonattainment due to a past violation of the TSP NAAQS. Under the Clean Air Act, all applicable TSP controls in these areas must remain in place until they are legally redesignated to attainment status by the EPA.

- 21 Page 365 - Forestry
The 45 percent slope limitation for conventional tracked or wheeled skidding equipment may, under some circumstances, result in excessive soil displacement. A 30 percent limit is more realistic for wheeled skidders. A 45% limit is feasible for conventional track laying equipment with intensive pre-planning, design and approval of skid trails. It does, however, contain more inherent risk for soil displacement if problems arise.

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Comment Responses

10-15 Active preference can only be addressed through monitoring of actual use, trend, utilization, and precipitation. Guidelines have been introduced to address proper functioning condition of riparian areas. These guidelines will aid in management of grazing livestock.

10-16 Please see revised text in Chapter 3.

10-17 Yes, you are correct that there are areas of overlap concerning Maps 14, 15, and 16. These maps refer to all surface disturbing activities, not only oil and gas. Consequently, an area can be withheld from leasing oil and gas, and have a No Surface Occupancy stipulation for construction of a livestock reservoir or recreation site.

10-18 Water quality monitoring within the Green River Resource Area has been in effect for many years and is ongoing.

The two tables were not intended to show consistent numbers. Table 2-17, page 180 of the Draft EIS, depicts the actual census of wild horses after counting in the winter of 1992. Table 2-19 on page 183 depicts a population increase model (simulation) wherein the base population (current population column) is assumed to be the minimum population threshold for each Wild Horse Herd Management Area. The purpose of Table 2-19 was to demonstrate predicted population increases and the influence of this rate of increase on future gathering activities.

To clarify Table 2-19, the following changes have been made:

1. Current Population column has been changed to **Beginning Population**;
2. Year 1,2 & 3 Post Foaling Population columns have been changed to Post Foaling Population **Increase**

The analysis of Environmental Impacts displayed in the document relate to the effects of planned actions. The impact of wild horse populations at Appropriate Management Levels (AML) is documented in the RMP. It should be noted that the GRRA is monitoring wild horse use to determine effects on vegetation and soil.

The narrative on page 182 does not allude that herd management plans have yet to be developed, as demonstrated by the following quote from paragraph one, sentence two: "The **existing** (emphasis added) wild horse management plans would be updated...". We intend to update the existing plans as the monitoring data sufficient to do so becomes available. We anticipate that the data will be available for all areas within the next five years. Site specific NEPA analyses for updated management plans will be prepared as plans are updated.

10-19 It is our intention, through site specific planning and analysis, not to violate either the Clean Water Act or any of the Executive Orders pertaining to wetlands or waters. Spring developments can only be allowed if sufficient water is retained on site to maintain the wetland vegetative community existing there naturally. This in all likelihood involves a closed system and a fenced enclosure. If this is not possible, then no development will occur. The same is true for future reservoirs. If they should occur in a perennial or intermittent stream with riparian or wetland characteristics, they could be developed with offsite watering facilities for livestock so that the reservoir could be fenced and the wetland and deep water habitat increased. This, again, is for site specific analysis and it is our intention to remain within the law in all of these actions no matter which alternative one refers to.

C. ENVIRONMENTAL CONSEQUENCES

22 Page 474 - Oil and Gas Produced Water Disposal Methods
Information should be provided on the potential for and environmental consequences of reinjection of produced water to contaminate surface and groundwater. The subsurface injection of produced water for secondary recovery or disposal purposes should be recognized as carrying a potential threat to drinking water quality aquifers. This can occur either through a leak in the well casing or migration of produced fluid between the casing and well bore. Such channels may occur in wells where cement has been circulated to the surface as is required under standard BLM lease stipulations. It is recommended that the appropriate regulatory agency have an inspector on-site to witness the primary cementing of the long strings. Also to be considered, the BLM has the authority to require testing and evaluation beyond those measures specifically contained in an APD should the integrity of a well be suspect. Standards and guidelines to preclude the possibility of contamination, as well as mitigation practices required should also be included in these narratives.

23 The final EIS must disclose both the method and reliability of the program to be used to protect the groundwater resource and ensure that cross flow between formations, leaks in pipes, and other potential contamination flow paths are precluded.

24 Page 483 - Environmental Consequences - Livestock Grazing
The grazing related discussions lump wildlife with livestock and do not identify any specific threshold where domestic livestock grazing levels or range improvement projects could impact wildlife. Most discussions appear to consider domestic grazing and range improvement projects as at least not detrimental, if not beneficial, to wildlife habitat. However, pages 55 and 172 indicate that sagebrush, which is often a key source of big game wildlife forage in harsh winters, is the targeted vegetation change. Sagebrush is also the targeted species for reduction on Page 55 which identifies 67,700 acres (Preferred alternative) and 26,700 acres (Alternative A) of Vegetation Management by prescribed burning.

25 However, the constraints on acreage burned per year listed on page 174 indicate that burning could, in fact, have an adverse effect on antelope, deer and sage grouse. Also, the vegetation section of the Affected Environment section (page 414) states that the high density sagebrush classification has "...the potential, through manipulation, to increase herbaceous production and benefit livestock or in certain instances, wildlife production." This statement appears to qualify benefits to wildlife as only occurring "in certain

instances". There are similar statements about rangeland projects in other communities (i.e., Juniper). However, the environmental consequences section narratives do not disclose the effects on individual wildlife species from this activity or what limitation or steps (i.e., standards) should govern the project to ensure the activities would benefit or at least not adversely affect wildlife.

26 The acreage to be prescribe burned is also confusing. Discussions about the preferred alternative within the "Environmental Consequences" section (Page 483) states the preferred alternative will prescribe burn 26,700 acres "to improve forage". Page 497, also within the preferred alternative section, states that "Approximately 67,700 acres would be treated by prescribed fire to increase livestock, wild horse, and wildlife forage: improve wildlife habitat; and regenerate shrubs." Based on the display on page 55, we would assume the 26,700 acres is Alternative A and is not included in the Preferred Alternative, but the last paragraph on page 145 indicates that it is part of the 67,700, along with an additional 41,100 acres. This confusion should be clarified in the final EIS.

27 The Environmental Consequences section of the document, contains several tables displayed under each alternative (4-16, -17, -18, etc., for the preferred alternative) which disclose the amount of ground disturbance particular programs will cause. These charts are not summarized to reflect the compound or cumulative effects; nor, even more importantly, does the analysis reflect the effects of this ground disturbance on water quality, air quality or the biologic components of the environment. The charts present data, but not analysis of the data. As a result, there is not adequate disclosure of cumulative effects, connected actions or similar actions of the alternatives in the DEIS.

28 Page 490 - Impact Analysis - Air Quality
The first paragraph in this section should include a discussion of conformity. Section 176(c) of the Clean air Act prohibits the BLM from engaging in, supporting, financially assisting, licensing, permitting, or approving any activity which would either cause or contribute to a new violation of a NAAQS; or exacerbate an existing violation; or delay attainment of a NAAQS. As specific activities are carried out under the Green River Resource Management Plan, the air quality impacts of significant activities may need to be analyzed to ensure that the above air quality criteria are met. The EPA is preparing to propose regulations which will serve as a guide for applicability and content of conformity determinations by Federal agencies. These regulations are scheduled to be finalized in late 1993. This comment also applies to air quality discussions

Comment Responses

10-20 In the Final EIS, the words "already being" have been replaced with "currently or in the past have been."

10-21 The 30% maximum slope (or less) would be better for wheel skidders. The 45% is a maximum guideline, applicable in certain cases, depending upon soils, vegetation, etc.

10-22 A brief discussion of potential impacts to groundwater are found in Appendix 12 (Impacts and Relationships Common to all Alternatives) and Chapter 4 of the Final EIS. Guidelines for protection of groundwater casing and cementing are found in Appendix 7-2 (Oil and Gas Operations) of the Final EIS.

10-23 Laws and policies exist to protect ground water. Site specific analyses also analyze effects and provide mitigation for protection of groundwater resources.

The Bureau's Onshore Orders and regulations are intended to provide direction on protection of the environment, including the ground water resource. Specific ground water concerns and protection methods will be addressed when reviewing each Application for Permit to Drill and when the associated environmental analysis is prepared.

In the event of the discovery of a productive field, then additional environmental analysis will be prepared. Any potential ground water concerns or impacts will again be addressed, and additional mitigation added, at that time.

10-24 The management objective states "brush." Some of these targeted stands of vegetation are decadent mountain shrub communities where the objective is to retard succession for more palatable and younger plants. Sagebrush areas targeted for treatment are primarily on elk winter range with the objective to produce good stands of bluebunch wheatgrass for winter elk feed. Some additional sagebrush treatment on big game transitional range will benefit both big game and livestock.

10-25 Fire can benefit or adversely affect wildlife. These effects will be determined site specifically in developing an activity plan.

10-26 The acreage on page 483 (26,700) is a typo and should read 67,700. This has been corrected.

10-27 The assessment of impacts from the information is found in the individual resource impact sections of Chapter 4 and Appendix 12. Additional clarification of impacts and effects have been added to address cumulative impact analysis.

10-28 The text has been changed to read: "...including State Implementation Plans (SIP)." In the past, assuring conformity of Federal actions with State regulations and SIPs was simply a matter of coordination between the agencies. As of this writing, the EPA is in the process of developing conformity guidance regulations.

contained in the other alternatives.

Page 502 - Summary

- 29** The document quantifies Environmental Consequences in terms of effects of the alternative on other BLM programs rather than comparing the effects of the alternative on the physical environment. For example, the quantified "Short-term and long-term effects" of implementing the minerals program outlined in the Preferred Alternative are described in terms of acres closed to leasing and quantity of gas, oil and coal, trona, etc., produced.

Page 518 - Wildlife

- 30** There is no discussion about the potentially adverse impacts to wildlife attempting to use uncovered oil and gas waste water pits as habitat. The wildlife impacts discussion is primarily limited to a discussion of habitat loss. Also, the need to preclude wildlife from injury should be reflected in the requirement to block their access to waste water pits as a Standard, Guideline, Best Management Practice or other type of stipulation. The Wyoming Oil and Gas Conservation Commission has recognized this threat and requires all operators to implement a method to protect wildlife from this hazard. The final EIS should consider the need to restrict wildlife access to wastewater pits.

Page 604 - Watershed / Soils

- 31** The threat of ground water contamination from oil and gas development is not consistently presented in the four different alternatives (comments on page 474, above). Specifically, the threat from improper casing and cementing of production and disposal wells is mentioned under all alternatives except for the Preferred Alternative. The threat of ground water contamination from improper casing and cementing is intrinsic to all oil and gas operations.

D. APPENDIXES

Page 726 - Casing

- 32** The oil and gas leasing stipulations provide a good description of the importance of cementing surface casings below the lowermost aquifer of usable fresh water (i.e., 10,000 mg/l TDS). However, the contamination threat of formation cross flow along the well bore is only discussed in the context of wells with open hole casings. This threat needs to be specifically stated as a primary reason why the "bottom few hundred feet" of the casing, in and above the production zone, is cemented.

Comment Responses

10-29 Chapter 4 - Environmental Consequences, presents the effects of proposed management actions described in Chapter 2. Both beneficial and adverse effects are described. Many management actions, proposed to protect other resource values, have negative impacts on mineral resources. Land closures deny the location of mineral activities in certain areas. Other proposed actions that deny surface occupancy or restrict surface disturbing activity also deny the placement of mineral activities in certain areas or increase the cost of locating and producing mineral commodities. By describing areas closed to mineral leasing and quantities of minerals produced, we are in a better position to determine how proposed actions impact the mineral resource. This resulting information then can be used to determine the types of beneficial and adverse socioeconomic effects that would occur from adopting the proposed management actions.

10-30 The Management Situation Analysis (MSA) does discuss the adverse impacts of open waste water pits and produced water. Companies are actively netting produced water and reserve pits throughout the resource area. Netting is required of any long-term pit containing potential hazards to wildlife or livestock. A high percentage of new gas wells being completed are disposing of their waste water into tanks. This fluid is then transported to an approved facility for disposal. Appendix 5 also provides guidelines that provide protection for wildlife species.

10-31 You are correct. The Preferred Alternative should also contain a discussion of the potential impacts from improper casing and cementing. The entire paragraph of concern will be inserted into the Preferred Alternative.


10-32 A short discussion will be included in the section of concern.

11-1 Thank you for your recommendation for land use management of the resource area. This advice has been considered, along with all other public comment provided. The selection of our proposed resource management plan seeks a balance between protection of the environment and production or commodity uses.

The intent of developing water for wild horses on wildlife winter ranges is to produce improved distribution of wild horse use. This should result in reducing the impact of wild horses on winter ranges where use by this species is in excess of that which is desirable and is therefore, in itself, a mitigation of impacts to winter ranges. These waters will not be used to increase wild horse numbers. The statement to which you refer on page 63, for Alternative C ("same as B") says "Water developments would not be provided for wild horses unless consistent with wildlife habitat needs". The specific type of water development to be constructed is identified on page 320, "Only controlled waters (i.e., wells) would be developed". Any such waters would be subject to site specific NEPA analysis and interdisciplinary review prior to approval for construction.

Summer, Fall, and Winter diets of wild horses and pronghorn are not very similar, therefore, we anticipate little or no adverse impacts to winter pronghorn habitat quality. As these waters will be controlled (may be turned on and off), the impact on soil and vegetation resources by horses within the effective area of the waters can also be controlled.


Table 2-1 now replaces the text for Alternatives A, B, and C.



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United States Department of the Interior

FISH AND WILDLIFE SERVICE
Mountain-Prairie Region



IN REPLY REFER TO:

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FEB 26 1993

Memorandum

To: District Manager, Bureau of Land Management, Rock Springs, Wyoming
(Attention: Renee Dana, Team Leader)

From: Assistant Regional Director, Ecological Services, Region 6

Subject: Bureau of Land Management Draft Environmental Impact Statement on
the Green River Resource Area Resource Management Plan (EC 93-0008)

The U.S. Fish and Wildlife Service (Service) has reviewed the Bureau of Land Management's (Bureau) draft Environmental Impact Statement (Statement) for the Green River Resource Area Resource Management Plan (Management Plan) and has the following comments. The draft document offers excellent detail on background, affected environment, and impacts associated with the four alternatives considered. The alternatives offered in the Statement (except the "no action" alternative) address many of the positive changes for implementation of the Management Plan and are, therefore, responsive to public needs and desires. The Service comments are divided into "alternative-specific" and "general" comments which apply to the entire draft Statement.

ALTERNATIVE-SPECIFIC COMMENTS

1 The Service recommends adoption of Alternative C as the Bureau's preferred alternative. Clearly, Alternative C offers the greatest protection to wildlife, fisheries, wetlands, and other Federal trust resources while maintaining public recreation and various commodity production programs. However, the Service is concerned with two aspects of the alternative. The "Wild Horse Management" section (pages 63 and 320) states that water developments will be installed on crucial winter ranges for big game. Those water developments on crucial winter ranges should only be provided where adverse impacts to winter ranges will not occur or can be mitigated, as articulated for either the Preferred Alternative or Alternative A. Also, the 100-foot no-logging buffer along streams specified for Alternative C on page 26 is not described in the text on pages 292 and 293.

Comment Responses

11-2 The text has been changed to read: No clearcutting within 100 feet of drainages or standing waters. Other logging activity, such as thinning or cable logging could occur within this zone as long as it is determined that other resource values would not be adversely affected.

Regeneration has established on harvested stands at the Wind River Front; there has also been some planting. Site specific analysis would consider the needs of wildlife and recreation, and appropriate mitigation would apply.

11-3 The Federal Land Policy and Management, October 1976, mandated the review of BLM and other agency withdrawals to determine if they still serve their original purpose as stated in the withdrawal order, if they should be modified to reflect a change in purpose, or if they should be revoked. The purpose of this mandate is to eliminate overlapping withdrawals and to open the lands as much as possible to multiple use. The BLM and other agencies are reviewing their withdrawals. Some of the withdrawals have been found to still serve their purpose and have been extended; however, the majority of the withdrawals remain for final review, e.g., the purpose for the oil shale withdrawal no longer exists; there is little expectation of oil shale development in the United States, and should any proposals be received, they would be processed under the mineral leasing regulations. Prior to taking any action which would result in a change in land status and management, such as returning the lands to BLM administration and opening lands to the mining laws, the land use planning and site specific environmental assessment requirements must be met. The public will be given an opportunity to comment at that time.

The resource specialists have reviewed the lands encumbered by withdrawals, and have made recommendations in the RMP to withdraw lands for the protection of those resource values which would be left at risk if the existing withdrawal should be revoked. The public may comment on proposals for new withdrawals during the planning phase (RMP or RMP amendment) or upon issuance of a public hearing notice in the *Federal Register*. Those lands which do not require continued protection for other resource values will be open to mineral location.

11-4 The preferred alternative did identify continued grazing impacts at the current use levels. As a result of comments, the RMP will be revised to include guidelines for utilization limits on riparian areas based upon the proper functioning condition and desired plant community objectives. See revised appendix on categorization.

11-5 The tables in the document have been modified to correct these inconsistencies. The acreage of floodplains among all alternatives should be the same 95,550 acres.

11-6 Surface coal mining is feasible on crucial big game ranges. Management prescriptions in the RMP are designed to ensure reclamation of crucial winter ranges. The BLM must ensure that there is suitable crucial winter range to support the biological needs of big game before further mining is allowed.

The lands having potential for the occurrence of coal were evaluated using 43 CFR 3460; any alternative chosen for the RMP must conform with the Code of Federal Regulations. Many areas that might be unsuitable for unrestricted surface coal mining would not be unsuitable for underground mining (43 CFR 3461.1). There are two existing underground coal mines in the area; so the possibility of receiving a proposal for an underground coal mine sometime could not and cannot be absolutely ruled out. Likewise, it was judged that there were many areas (including areas with values relevant to wildlife)

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The Preferred Alternative extends significantly less protection to the various resources of the Green River Resource Area (Resource Area), as compared to Alternative C, but appears to be a reasonable compromise between the commodity and environmental interests. The Preferred Alternative could be strengthened by modifying individual sections as described below.

2 Forest Resource Management (pages 26 and 125-129): A 100-foot buffer along streams and standing water, as described for Alternative C on page 26, would offer significant protection from siltation and water quality degradation and should be incorporated in the Preferred Alternative. Further commercial harvesting of timber on the Wind River Front Area should only proceed if adequate regeneration of previously harvested stands is adequately demonstrated. The slow regeneration and high recreational and wildlife habitat values of the existing forest stands in the area should be considered in any timber harvest proposals for this area. Commercial timber production may not be appropriate for this area.

3 Land and Realty Management (page 31 and Table 2-7, page 142): The revocation of approximately 3.5 million acres of withdrawal lands should be more fully explained and justified. It is unclear why these withdrawal areas no longer serve the purposes for which they were intended.

4 Livestock Grazing Management (pages 33 and 136-146): Considering the fact that some areas of the Resource Area already suffer from overgrazing impacts at the current grazing level of approximately 180,000 animal unit months (AUM) (page 518), the Bureau's Preferred Alternative should not allow for increases in grazing levels to the recognized active preference levels. A brief explanation of the allotment categories (I, M, and C), as provided in Appendix 9-8, should be given in the text where these categories are first used.

Minerals Management

5 Oil and Gas (pages 38 and 148): The Preferred Alternative places a no surface occupancy stipulation on 94,660 acres of floodplains. The Service strongly supports this action. However, Alternative C extends such protection to 95,550 acres of "riparian areas, wetlands, and floodplains" (page 300). The modest acreage added to the no surface occupancy area by inclusion of riparian areas and wetlands (890 acres) is well justified considering the importance of riparian areas and wetlands to wildlife, water quality, flood storage, and water table maintenance. It is recommended that riparian areas and wetlands as identified in Alternative C be included in the no surface occupancy area proposed for the Preferred Alternative.

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6 Coal (pages 41 and 160): The Service does not support coal mining within big game crucial winter ranges. Reclamation efforts outside crucial winter ranges have not demonstrated an ability to reclaim the topographic and vegetation features unique to winter ranges. To allow mining on crucial winter ranges, with further mining within that winter range contingent upon successful reclamation, will at best remove a portion of the affected crucial winter range for several years while displacing animals and subjecting them to increased disturbance. Because there is a clear potential for permanent loss of winter range functions of the mined land, the Service recommends that crucial big game winter ranges be closed to further consideration for Federal coal leasing and development.

Alternative B focuses on commodity production and contains many provisions that would cause unnecessary harm to the wildlife and other resources of the Resource Area. The following actions are those that appear most damaging.

7 Forest Resource Management (pages 26-27 and 249-250): The maximum harvest level of 1 million board feet per year through intensive silvicultural management can apparently be attained only at the expense of other resources. Specifically, buffer zones along drainages to protect water quality, streambank stability, and fish and wildlife habitat should be established to reduce impacts from silvicultural activities. Seasonal restrictions on crucial big game winter and parturition ranges should be established and enforced. The role of wildfire should be recognized and incorporated into the Management Plan.

Livestock Grazing Management (pages 32-37 and 254-255): Adoption of management objectives that explicitly recognize the needs of livestock above other uses is counter to the multiple-use mandate of the Bureau and is likely to harm many resources and polarize the interested publics. Increasing the grazing preference by 5,000 AUM's is likely to cause damage to the range resources, as well as interfere with resource area goals for wildlife and recreation. A goal of achieving proper functioning condition on only 50 percent of the riparian areas in the Resource Area is not responsive to public concerns over degradation of riparian areas and will result in undue damage to streams, riparian forage production, fisheries, and wildlife habitat.

Minerals Management

Oil and Gas (pages 38 and 255-259): No surface occupancy restrictions should be established for all riparian areas, floodplains, and wetlands. Big game crucial winter ranges also should be considered for such protection and, at a minimum, should be protected with seasonal restrictions. Alternative B currently does none of these things.

7 Coal (pages 39-45 and 259-265): Coal mining on crucial big game winter ranges is inappropriate because of the disturbance, displacement, and long-term loss of habitat likely to occur. Reclamation techniques are inadequate at this time. Failure to consider the importance of big game winter ranges (page 41) is inappropriate.

Geophysical (pages 49 and 266): Off-road vehicle use has been identified by the Resource Area and the public as a cause of resource damage. The Bureau has moved to correct this abuse by closing some areas to off-road vehicle use. Geophysical vehicles can cause the same level of damage, especially when trails blazed by these vehicles are subsequently followed by recreational vehicles. Therefore, geophysical vehicles should be restricted to existing roads and trails where the potential for scarring and erosion of the easily damaged and slow-healing lands warrant restriction of recreational off-road vehicle use.

Off-Road Vehicle Management (pages 49-51 and 266-269): All off-road vehicles should be restricted on big game winter ranges during the winter to avoid stressing wintering wildlife. Big game animals in Wyoming typically endure harsh winters primarily by conserving energy, and that energy expended avoiding vehicles can be critical to survival. Crucial birthing areas also should be as free from unnecessary disturbance as possible.

Recreation Resource Management (pages 51-54 and 269-271): Springs, seeps, ponds, and other wetland areas are important to wildlife and are easily damaged by thoughtless actions of casual visitors. The Service supports the restriction of no camping within at least 200 feet of such areas, as described for the Preferred Alternative. Alternative B currently has no such restriction.

Vegetation Management (pages 54-57 and 271-272): Conversion of shrub lands to grasslands may offer temporary increases in livestock forage production but can negatively impact big game browse availability, nongame bird communities, and soil stability. Shrub stands are especially critical on big game winter ranges. Vegetation treatment in these areas must be carefully designed to ensure that forage resources for wildlife are not harmed. Chemical treatment of sagebrush is of particular concern. The Service urges the Bureau to take a more conservative approach to vegetation treatment, as described for any of the other alternatives in the Statement.

Watershed/Soils Management (pages 59-63 and 272-274): Development of structures within floodplains, wetlands, and riparian areas are regulated by Executive Orders 11990 and 11988 and Section 404 of the Clean Water Act. Before structures can be placed in such areas, it must be demonstrated that there are no practicable alternatives. These legal constraints are designed to protect the many valuable functions of these

7 fragile areas. If the Bureau proceeds with the approach described for Alternative B, the language for development in these areas should indicate that such developments will be permitted only when no alternatives exist.

Wild Horse Management (pages 63-64 and 274): Water developments for wild horses in crucial big game winter ranges must be carefully designed to ensure that winter range values are not compromised.

Wildlife Management (pages 65-67 and 275): Across much of Wyoming, including the Resource Area, overwinter survival is the factor with the greatest influence on big game populations. Where winter range is inadequate or disturbance of wintering animals is excessive, maintenance of objective populations is difficult or impossible. Protection of wintering areas, free from human disturbance, is by far the most cost effective and simplest way to ensure healthy big game populations. Undisturbed parturition (birthing) areas are also critical, though perhaps to a lesser degree. Nonmigratory game birds such as sage grouse (*Centrocercus urophasianus*) are similarly dependent on undisturbed strutting grounds and, secondarily, nesting areas. Sound multiple-use management of public lands should protect these critical areas, which cover only a small portion of the total occupied habitat for each species. At a minimum, seasonal closures of these areas should be established and enforced. Alternative B, as currently presented, would result in unnecessary harm to wildlife populations if these sensitive areas are not protected.

GENERAL COMMENTS

The Statement describes use of the area by terrestrial threatened and endangered species (pages 439-440), but lacks discussions of impacts to these species. The consideration of candidate plant species is excellent. A discussion of estimated depletions affecting the endangered Colorado River fishes is contained in Appendix 12. The Bureau staff has initiated Section 7 consultation with this office and is currently preparing a biological assessment for the project. Discussions from the biological assessment and associated correspondence could be incorporated into the Final Environmental Impact Statement to more fully disclose impacts on endangered species associated with each alternative. There appears to be a contradiction on page 439, first paragraph of the second column. The first sentence states that no bald eagles are known to nest in the Resource Area. The remainder of the paragraph describes bald eagle nesting on the Green River. This contradiction should be clarified.

9 Disclosure of wetland types, locations, importance, and impacts is weak, although brief references to riparian areas and other wetlands are scattered throughout the text. Existing wetlands in the area are particularly valuable considering the otherwise arid conditions of the Resource Area. The Statement should be revised to include discussions of wetland impacts for each alternative. To place wetland losses in perspective, anticipated losses should be expressed in both acres and as a percentage of existing wetlands by drainage. The Resource Area staff may find the National Wetland Inventory

that could be leased; if such leases were conditioned, mitigated, or stipulated stringently enough to meet the exceptions listed in 43 CFR 3461. Accepting these lands for further leasing consideration does not mean the BLM encourages unrestricted mining. It only means that any application and proposal received by the BLM will be evaluated on a case-by-case basis and judged by its own merits.

11-7 The intent of environmental analysis, and for different management scenarios under the planning process is to compare the impacts and then make an informed decision. Agencies must analyze a reasonable range of alternatives. We elected to analyze a maximum protection alternative and a maximum production alternative (according to the best data available at the time), a continued management alternative, and a preferred alternative (which incorporates aspects of the other three alternatives). Adoption of any one of the alternatives would not preclude the BLM from requiring compliance with any and all federal/state mandates, laws, and regulations for protection of the environment. It would not be likely that the BLM would adopt Alternative B without modifications to address public concerns since public comment, for the most part, did not support this alternative.

When focusing on the commodity production alternative, the RMP team dropped any restrictions to production that were not required by laws or regulation. As a result, it was assumed that certain environmental impacts would occur and it provided an analysis of the trade-offs associated with dropping environmental stipulations and is an important part of the process. This included optimizing production of forest products, livestock grazing use, and overall development. Focusing on commodity production included dropping the seasonal stipulations for big game. The purpose was to quantify the impact to wildlife if this stipulation was dropped. In summary, it provides the reader an understanding of the cost associated with increased production.

This is not our preferred alternative. Additionally, activity plan development will address site specific management including the incorporation of fire use options.

11-8 Thank you for your comment. The biological assessment and opinion have been incorporated into the appendices and referenced in Chapters 3 and 4. The Final EIS has been changed.

11-9 The National Wetland Inventory maps for the District have not been entered into the MOSS-GIS and as such we are not able to use this for overlays or computations and have relied on estimates for acreages. It is our intention to not violate either the Clean Water Act or any of the Executive Orders pertaining to wetlands or waters. These areas are avoidance areas throughout all alternatives and should not be lost or affected. Site specific analyses will address the effects of site specific actions on these areas.

Comment Responses

maps prepared by the Service useful. For information on availability of maps (some of which may already be digitized) contact Charles Elliott, Regional Wetland Coordinator, U.S. Fish and Wildlife Service, P.O. Box 25486, Denver Federal Center, Denver, Colorado 80225 (303-236-2985).

10 Analysis of fishery impacts and opportunities is similarly weak. The Bureau recognizes that serious data gaps exist in the area of aquatic resources (page 437). Recent efforts on behalf of the Colorado River cutthroat trout (*Salmo clarki pleuriticus*) in Currant Creek are commendable. Opportunities for fishery enhancements probably exist elsewhere in the Resource Area. Specific management actions should be developed for each alternative which would address data gaps and management opportunities.

11 Implementation of standard mitigation guidelines, as described on page 12, requires clarification. Where Bureau actions affect adjacent private or State-owned lands, as in the case of utility or transportation rights-of-way, the Bureau has both the authority and the responsibility to include conditions to minimize impacts to fish and wildlife habitat, especially golden eagles, their nests, and other migratory birds on those non-Federal lands. This authority is independent of the existence of Federal minerals on the affected lands and is detailed in the attached Solicitor's Opinion dated August 25, 1987.

With respect to the Coal Screening Process (page 13 and Appendix 3), the following comments and requests are offered. The last field application of the Unsuitability Criteria (Criteria) by our Agencies for the coal-planning area was conducted in 1981. Considerable time has elapsed since the last application of the Criteria. Therefore, the Service recommends that all proposed lease areas be reinventoried for Migratory Birds of High Federal Interest and federally listed endangered or threatened species and that the Criteria pertaining to these species be reapplied.

12

13 The Service cannot agree with the Bureau's blanket determination that "no areas were classified as unsuitable" for Criteria 9, 11, 12, 13, and 14 for the 1992 Coal Screening Process (Appendix 3-2, pages 645). Historically, designated golden eagle (*Aquila chrysaetos*) and prairie falcon (*Falco mexicanus*) nest site buffer zones and ferruginous hawk nesting complexes were classified unsuitable for surface coal mining. In the Green River-Hams Fork Coal Region of Wyoming, most of the nest sites for these raptors are associated with cliff and rock outcrop habitat, which are unique and very difficult and costly to replace. In addition, replacement is commonly discouraged or prohibited under provisions of the Surface Mining Control and Reclamation Act. Accordingly, the Service still believes that these nesting features and an adequate buffer zone in the immediate vicinity of the nest(s) should be designated unsuitable for mining under the Criteria. This also applies to any endangered species habitat that may be identified in the future (e.g., bald eagle (*Haliaeetus leucocephalus*) nest and roost sites, prairie dog (*Cynomys* spp.) colonies supporting black-footed ferrets (*Mustela nigripes*), and designated endangered or threatened plant habitat). It is recommended that crucial big game habitat and sage grouse leks and nesting areas be designated as unsuitable for mining.

14 The discussion relating to Unsuitability Criterion 9, Federally Listed Endangered Species Habitat (page 653), states that "there is no endangered species habitat within the coal development potential area" and needs to be clarified. There is a possibility that the coal area may contain threatened or endangered species, i.e., potential habitat for black-footed ferrets within prairie dog towns and possible listing of rare plant(s) under the Endangered Species Act. Bald eagle nesting and roosting sites, if discovered in the area, will meet not only this criterion but Criteria 11 and 12 as well. Therefore, discussions in the Statement should be revised to indicate that all potential coal lease tracts will be inventoried for threatened or endangered species, and, if they occur, the Service will be consulted to determine what area(s) need to be designated unsuitable under these Criteria in order to protect the species.

Thank you for the opportunity to comment on this important document. The draft represents a good-faith effort by the Bureau to practice sound multiple resource management while considering a variety of options. Through continued coordination, the Bureau and Service can help ensure that planning decisions are based on realistic evaluations of available options, resultant impacts, and public desires.

Donald C. Rodeh

Attachment

cc: Director
Wyoming Game and Fish
Department
Cheyenne, Wyoming

Nongame Supervisor
Wyoming Game and Fish
Department
Lander, Wyoming

bcc: RO rf
ES file, circ rf (2)

ES:RNaten/Cheyenne:vs:2/24/93
FILE:

11-10 Specific management actions are being developed within individual Habitat Management Plans (HMPs) for high priority areas. Inventory is also a high priority, especially as it relates to riparian habitat and stream condition. Streams within the GRRA have been prioritized in an effort to concentrate staffing and procurement activities.

11-11 Yes, the BLM does have the authority and responsibility to analyze the potential impacts, including cumulative impacts, to the natural and physical environment from actions requiring a federal permit, right-of-way, or lease, regardless of land ownership. Measures that can be taken to minimize impacts must be identified. However, the extent that BLM can condition a federal right-of-way grant, permit, or lease where private lands are involved is contingent upon landowner concurrence other than those required by law (e.g., T&E, cultural). We have clarified the section "Criteria for Use of Standard Mitigation Guidelines" accordingly.

11-12 We concur. We support consulting USFWS and having these inventories done when a proposal is received.

11-13 As long as mining is underground, wildlife species will be able to utilize habitats. We cannot rule out underground mining with the present status of Lion Coal and Pilot Butte Mines (Stansbury). Strict interpretation of the unsuitability criteria dictates that criteria 9 through 14 can be mitigated because of alternative mining methods. Also see response to comment 11-6.

11-14 A portion of the coal potential area was inventoried for all raptors and prairie dog colonies from 1980 through 1983. USFWS was contracted and conducted ferret searches in all prairie dog colonies within the KRCRA. Buffer zones were delineated jointly by USFWS, WGFD, and BLM for all raptor nests identified. However, we agree that further plant inventories and wildlife inventories may be needed. Additionally, further consultation and coordination with your agency would occur prior to any activity.

12



STATE OF WYOMING
OFFICE OF THE GOVERNOR
CHEYENNE 82002

April 19, 1993

MIKE SULLIVAN
GOVERNOR

Ms. Renee Dana, Team Leader
P.O. Box 1869
Rock Springs, WY 82902

Dear Ms. Dana:

Agencies of the State of Wyoming have reviewed the Green River Resource Area Resource Management Plan and Draft Environmental Impact Statement. Enclosed for your consideration and use are comments resulting from that review. These individual agency comments reflect the various statutory missions and philosophical viewpoints of a diverse array of public agencies. This fact occasionally produces comments that are inconsistent or contradictory; however, state law provides that my letter to you constitutes the official position of the State of Wyoming on this matter. Given the nature of the land and mineral ownership patterns in the Green River Resource Area, any management plan on federal lands has obvious implications on all resource management in the area. Any decisions severely impact ability to manage, use or develop resources on state and private ownership as well. This land and mineral ownership pattern, coupled with the vast and diverse resources dispersed throughout this area, contributes to the importance of any management plan adopted by the BLM and importance of accurate underlying data and a careful evaluation and to the assessment of multiple and often conflicting views as to appropriate management.

- 1 There has been considerable public discussion lately about the world-class natural gas reserves that occur in the Green River Resource Area and the manner in which they are discussed in the Draft RMP/EIS. In that regard, I would ask that you direct particular attention to the comments from the Wyoming Oil and Gas Conservation Commission and the State Geologist. These agencies point out, and I agree with them, that the current production and estimates of future production and reserves of natural gas are grossly understated in the document. As an example, the Draft suggests natural gas production will decline 10% through the year 2010, while reliable research projects an increase of approximately 250%. Additional sources of information are provided, and I would strongly encourage BLM to review these and other information sources to correct the contents of the Plan and ensure that the gas resource in the GRRA is accurately described and its significance adequately considered.

12

Ms. Renee Dana
April 19, 1993
Page Two

- 2 An underestimation of the importance of this resource to both the State of Wyoming and the nation could, in my view, lead to a management direction that is overly restrictive and which results in a very significant and costly lost opportunity to capitalize upon that resource. I would suggest that decisions in the GRRA be postponed until such time as a more accurate display of natural gas production and potential has been developed by BLM. I am reluctant to propose this course, given the obvious level of work and analysis that has already gone into the document, but a truly informed decision and one that can be supported by the public requires the best available data. We would be no less concerned about the informed ability to evaluate direction if there were equivalent errors in evaluation of other significant resources.
- 3 I am pleased to see that the Draft GRRA RMP/EIS includes an analysis of potential additions to the Wild and Scenic River System that treats eligibility and suitability determinations concurrently. I hope that this approach serves as a prototype for other BLM Resource Areas faced with similar decisions.
- 4 Within the discussion of the proposed South Pass Historic Landscape, there is no mention of the proposal to construct the Altamont natural gas pipeline. While construction has not yet commenced (and it is conceivable that it won't be built), this facility is a FERC-certificated pipeline which follows a route that BLM supported. The document should discuss this pipeline and the potential effects, if any, of the special management area designation upon it.
- 5 The State Land Office has made some very important points with regard to the problems the state encounters when state trust lands are enclosed within BLM special management areas such as ACECs, WSAs and similar designated areas with restrictive management. I fully agree that these situations must be rectified by the federal agency acquiring these lands either through exchange, if feasible and cost-effective, or by purchase. I too would like to see a firm schedule and budget for these critical acquisitions.
- 6 I support BLM's proposal to revoke existing withdrawals as it appears that the original reasons for these withdrawals no longer exist. As BLM works on the revocation process, I would encourage that any withdrawals proposed for retention for the purposes of resource protection be analyzed to determine if a clear and real threat to those resources is present. If that jeopardy is not present, the withdrawal should be terminated.

Let me reiterate my caution that decisions on many of the resource issues in the GRRA would be premature until the information on the natural gas resource is updated and improved.

Comment Responses

- 12-1 The errors that were pointed out by the Wyoming Oil and Gas Commission and the State geologist have been corrected in the document. There are differing opinions as to what the level of development will be in the Green River Basin. The GRRA RMP estimates were based on information obtained from RMOGA, PAW, and others in the industry. The biggest critic has been Barlow and Haun, who estimate the production will increase 250% in the Green River Basin. It should be noted that the Green River Basin extends over a much wider area than the Green River Resource Area. After a review of the comments, analysis of the new data provided, and a discussion with these various groups, our projections appear to be valid.

- 12-2 We have reviewed our projected development potential (see response to comment 12-1). Additionally, the RMP Preferred Alternative provides for approximately 90% of the resource area to be opened for leasing oil and gas. The RMP provides for different levels of development, so that an analysis could be made of the environmental consequences at these levels of development. With 90% of the resource area leased, the levels of development are going to be controlled by market forces. Also see response to comment 63-1.
- 12-3 Thank you for your comment.
- 12-4 See response to comment 8-3.
- 12-5 See response to comment 19-1. The plan does address acquisition of state land within special management areas. A plan and schedule would be developed after completion of the land use plan.
- 12-6 Thank you for your comment. See response to comment 11-3.

12

Ms. Renee Dana
April 19, 1993
Page Three

7 I say this because many management options need to be analyzed and that analysis will suffer if information on any of the resources under consideration is inadequate. Much is at stake and decisions that would unduly restrict the development of the gas resource because the true scope and nature of that resource is not accurately displayed would be a disservice to Wyoming and the nation. It is for this reason that I urge prudence. I offer the services of agencies of the State of Wyoming to BLM to provide the best data available prior to these decisions being made. As well, by pointing out the concerns about the natural gas resource I do not want to overlook other important agency comments such as the Department of Environmental Quality concerns relating to surface water quality and many of the comments made by the Game and Fish (though many are obviously and understandably focused only on the interests of the wildlife resource).

8 I appreciate this opportunity to review the Draft Green River Resource Area RMP/EIS. Please keep me informed on your progress, and do not hesitate to contact me if the State of Wyoming can be of assistance.

With best regards, I am

Very truly yours,


Mike Sullivan

MS/rms


Enclosures

cc: State Review Agencies
Wyoming Congressional Delegation

Comment Responses

12-7 See response to comment 12-2. We appreciate your concerns and look forward to working with your office in resolving issues identified in this plan.


12-8 We will continue to keep your office informed of our planning efforts.



THE STATE OF WYOMING

MIKE SULLIVAN
GOVERNOR

13



RECYCLE

Department of Environmental Quality

Herschler Building • 122 West 25th Street • Cheyenne, Wyoming 82002

Administration (307) 777-7937	Air Quality Division (307) 777-7381	Land Quality Division (307) 777-7756 FAX (307) 634-0799	Solid Waste Management Program (307) 777-7762	Water Quality Division (307) 777-7781 FAX (307) 777-5973
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February 23, 1993

Ms. Renee Dana, Team Leader
Bureau of Land Management
Rock Springs District
P.O. Box 1869
Rock Springs, WY 82902

Dear Ms. Dana:

Thank you for the opportunity to review the Draft EIS for the Green River Resource Management Plan. It is obvious your staff has put a considerable amount of work and time into this document. For the most part you have addressed DEQ's concerns, except perhaps in the area of surface water quality. The plan EIS only lightly touches on broad based goals and objectives and fails to address water quality issues. I would recommend a review of Chapter 1 of the Water Quality Rules and Regulations and the inclusion of the pertinent standards into the EIS. I recommend this, since there are major projects planned relating to oil, gas, and coal exploration and significant projects relating to grazing allotment management. However, the plan provides only minimal reference to the effects on water quality. The review would help to ensure that the projects addressed in the plan would not exceed Wyoming Standards.

Some of the areas of specific concern are:

- 2 1. This plan covers 5,359,000 acres and there are no good maps of surface waters. The only exception is Map 24, Waters and Floodplains, and this makes no reference to stream classification. It is important to note that the entire Sweetwater drainage within the plan area is a Class 1 stream. This means that no point source discharges can further degrade water quality and non-point pollution sources must be addressed with Best Management Practices.
- 3 2. The plan notes on page 727 that problems may arise as gas-oil fields grow. However, the solution proposed is to fix damage after the field is closed, when it would be better to take steps to avoid problems adversely affecting water quality before they occur.

13-1 State DEQ regulations are the foundation of water quality standards in the Green River RMP and are part of the MSA on file in the Green River Resource Area Office.

13-2 A list of stream classifications has been created and is on file in the MSA in the Green River Resource Area Office.

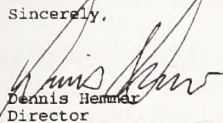
13-3 We did not mean to imply that problems would only be addressed after field abandonment. We will take action on problems as we learn of them. Current standards for oil and gas downhole operations address any new wells to avoid such problems. Problems with old wells are addressed as they are identified. The paragraph of concern will be changed to make our intent more clear.

13

Ms. Dana
February 23, 1993
Page 2

3. Allotment Management; the following construction is proposed on several allotments: wells-7, reservoirs-43, pipelines or troughs-8 (several miles), seep or spring development-5. There is no mention of how these will affect water quality. There needs to be some mention of how projected management will address water quality issues and prevent further degradation of surface waters.
4. The guidelines on page 791 for the use of various agricultural chemicals are very weak in relation to water quality. What methods will be used to prevent degradation of surface water quality and to insure that ground water will not be polluted?
5. In the section on resource conflicts/potential conflicts in allotments, pages 803 & 804, there is not one reference to water quality degradation. We would have to assume there is a potential problem here. Perhaps there should be some specific information on water quality issues associated with allotment management.

Sincerely,


Dennis Hemmer
Director
Department of Environmental Quality

DH/RMJ/bb/30780.1tr

Comment Responses

- 13-4 Refer to Appendix 9-5, Pages 788 and 789 of the Draft EIS, Design of Range Improvements. A site specific EA will be completed for each improvement and will address such items as water quality. Mitigation measures will be implemented to reduce and/or eliminate the impact.
- 13-5 There is presently an EIS on chemical application and chemicals that can be used on public land. Actions proposed in this document will comply with the guidelines established in that EIS. Certification is required of applicators applying herbicides on public lands. Applications are to be done within the restrictions shown on the pesticide labels. This follows EPA standards.
- 13-6 In this section, Resource/Potential conflicts did not include water quality. Measuring water quality is a monitoring method to reach long- and short-term objectives for improving riparian habitat, fisheries habitat, and watershed systems.

14

DIVISION OF ECONOMIC
& COMMUNITY DEVELOPMENT

Wyoming
Department of Commerce

4th Floor North
Barrett Building
2301 Central Avenue
Cheyenne, Wyoming 82002
(307) 777-7284
FAX (307) 777-5840

George H. Gault, CED
Director

January 6, 1993

Rod Miller
Federal Lands Planning
Coordinator
Governor's Office
Herschler Bldg.
Cheyenne, WY 82002

Dear Rod:

- 1 I have scanned the Green River Resource Area Resource Management Plan and Draft Environmental Impact Statement (Ref. # 88-064), and would recommend that the Governor request that certain lands previously withdrawn be reclassified to accommodate the development of locatable minerals.

Specifically, much land in the Green River Resource Area has been withdrawn for future oil shale development. Without questioning the merits of such a policy, a result of this designation is the exclusion of other mineral development.

I have been in contact with businesses that have expressed interest in mineral development, but are precluded from doing so because of the withdrawal restriction. This unnecessary exclusion translates into lost jobs, income, and taxes.

As the Governor prepares to respond to the Management Plan, I hope that he will support alternatives that maximize land management flexibility.

Sincerely,


Paul Howard
Business Development Officer

Mike Sullivan
Governor

Max Masfield
Director,
Department of Commerce



- 14-1 The Preferred Alternative supports revocation of the Oil Shale Withdrawal.

15

DIVISION OF PARKS
& CULTURAL RESOURCESState Historic Preservation Office
2301 Central, Barrett Bldg.
Cheyenne, Wyoming 82002-0290
(307) 777-1697
FAX (307) 777-6421FEB 22 1993
Wyoming
Department of Commerce

February 18, 1993

Wyoming State Clearinghouse

State Planning Coordinator's Office
Herschler Building, 4th Floor East
Cheyenne, Wyoming 82002

RE: Green River Resource Area RMP and Draft EIS (State ID No. 88-064), SHPO: #0293KLK026

Dear Mr. Lindsay:

Karen Kempton, Fred Chapman and Todd Thibodeau of our staff have received information concerning the aforementioned project. Thank you for giving us the opportunity to comment.

Our review of the Bureau of Land Management Green River Resource Area Resource Management Plan and Draft Environmental Impact Statement has included consideration of historic properties issues regarding historic properties, prehistoric and historical archaeological sites and Native American traditional use areas and properties. We find that the document adequately addresses cultural resource concerns, and that the preferred alternative as presented is acceptable to this office. We offer the following specific suggestions and comments.

- 1 Table 2-1 (page 23): The preferred alternative treatment for "Other Sites" should also include a brief discussion of traditional use areas, traditional cultural properties, and other localities of concern to Native Americans. Currently, these types of sites are poorly represented in the state also because of the recent amendments to the National Historic Preservation Act and the proposed amendments to the American Indian Religious Freedom Act will undoubtedly result in increased consultation between Native Americans and government agencies concerning cultural resource issues. We expect that this dialogue may dramatically expand our knowledge of such sites over the next several years.
- 2 The State Historic Preservation Office is willing to consider the negotiation of programmatic agreements with the BLM regarding two issues presented on page 123: archaeological resources in concentrated oil and gas areas and surface disturbing activities in playa lake areas. Regarding playa lakes, we suggest the document clarify whether district nominations will be prepared for the playa lakes or state that they will only be managed as if they were historic districts.

Mike Sullivan
GovernorR.D. "Max" Mansfield
Director

Comment Responses

15-1 We agree that in the future our knowledge of traditional cultural properties will increase in part, if not wholly, as a result of the recent legislation you mentioned. During scoping, the BLM solicited information concerning these kinds of resources from several Native American groups and individuals. At that time, only the rock art sites specifically mentioned in this plan were identified by any of those parties consulted. Some general topographic features were identified by representatives of the Eastern Shoshone tribe as having particular sensitivity to being of concern to them for spiritual reasons. However, it is impossible at this level of planning to address each of those kinds of features of which there are hundreds, if not thousands within the GRRRA. Therefore, our intent in the Preferred Alternative is to allow a dialogue to continue to develop in which Native peoples are encouraged to identify sites of concern to them and in which the BLM would solicit their comment with regard to specific development actions.

We would also add that the BLM recognizes the sensitivity of many traditional properties. This document has intentionally kept discussion of Native American sites vague to protect their integrity. The BLM emphasizes the need for continuing and expanded dialogue with Native peoples in the strongest terms possible. We also emphasize that the Preferred Alternative to manage other sites on a case-by-case basis **does not** mean that these sites are less important, or less deserving of protection. It simply means that more information, in many cases including actual identification of the sites, is needed to develop appropriate management prescriptions. We fear that development of more specific prescriptions in the absence of this information would limit future options. See also page 124 of the Draft EIS.

15-2 The BLM acknowledges and appreciates the Wyoming State Historic Preservation Office's (SHPO) willingness to consider negotiating Programmatic Agreements for management of the four identified areas of high oil and natural gas development.

The BLM recognizes the distinction the SHPO points out between managing the playa lake areas as historic districts and actually nominating them to the NRHP as historic districts. The BLM intent is to manage the Blue Forest and Blue Point areas as if they were historic districts. Our reason for this is that these areas have already been substantially impacted, perhaps to the point that they would no longer qualify for National Register of Historic Places (NRHP) designation because of a lack of integrity. However, under NRHP criterion "D" it is possible that the areas could still be nominated to the Register. At this time we would prefer to manage the areas as districts while retaining the option of NRHP nomination if future archaeological work indicates that sufficient integrity exists to justify NRHP nomination.

The Adobe Town Rim playa on the other hand is relatively pristine and the BLM will pursue NRHP nomination of that area. No change in the Resource Management Plan is required for the BLM to nominate the site since NRHP nominations are an existing mandate under the NRHP. However, the GRRRA will ensure that the RMP implementation plan reflects the need for staff and budget commitment to nominate the Adobe Town Rim playa to the NRHP.

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Rich Lindsay
John T. Keck
February 18, 1993
Page 2

Please refer to SHPO project control number #0293KLK026 on any future correspondence dealing with this project. If you have any questions contact Ms. Kempton at 777-6292 or Judy Wolf, Deputy SHPO at 777-6311.

Sincerely,

John T. Keck
State Historic Preservation Officer

JTK:KLK;ldm

cc: Bureau of Land Management, Green River Resource Area

16

WYOMING
GAME AND FISH DEPARTMENT



FEB 22 1993

February 18, 1993

EIS 7007
U.S. Department of the Interior
Bureau of Land Management
Rock Springs District Office
Green River Resource Area
Plan and Draft Environmental
Impact Statement/Green River
Resource Area Resource
Management Plan
STN: 88-064
Sweetwater, Fremont, Uinta,
Sublette and Lincoln Counties

ROD MILLER
STATE PLANNING COORDINATOR'S OFFICE
HERSCHLER BUILDING, 4TH FLOOR EAST
CHEYENNE, WY 82002

Dear Mr. Miller:

The staff of the Wyoming Game and Fish Department has reviewed the plan and draft environmental impact statement for the Green River Resource Area Resource Management Plan. We offer the following comments for your consideration.

Terrestrial Considerations:

This plan will greatly influence what habitat is available for wildlife during the planning period. Wildlife populations are a direct product of the condition of the land. The Game and Fish Department's ability to provide and manage wildlife populations will be largely influenced by the direction of the RMP.

We appreciate the opportunity to review the RMP and take our participation with the BLM very seriously. We have provided a number of comments to you so they can become part of the public records, but we hope that our input will not end here. We would like to meet with the Green River Resource Area (GRRRA) staff to discuss our comments and to provide further input. We would like to hold this meeting prior to the BLM issuing the final RMP for the resource area.

Headquarters: 548 Bishop Boulevard, Cheyenne, Wyoming 82002

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Mr. Rod Miller
February 18, 1993
Page 2 - EIS 7007

GENERAL COMMENTS

1 Management objectives and actions for wildlife and wildlife habitat appear to be directed toward the high profile species or sensitive and T&E species, and address "crucial" or "high value" habitats. The RMP also exhibits examples of special management actions for selected species such as sage grouse and Colorado River cutthroat trout. We would prefer to see the BLM managing habitat for all wildlife species and enhance the biodiversity of the Resource Area. To be most effective, the BLM should use a large scale framework like a watershed or portion of a watershed.

2 While the Preferred Alternative includes some proposals that would benefit wildlife, overall wildlife will be negatively affected. Several proposed changes in the management of the Green River Resource Area will significantly impact wildlife, wildlife habitat, and wildlife related recreation. The proposed revocation of mineral withdrawals, opening additional areas to coal leasing, not providing ACEC protection to some unique areas, opening candidate plant species habitat to oil and gas leasing, and the proliferation of roads and surface disturbance will all negatively impact wildlife.

3 The RMP does not appear to provide adequate direction to address problems of degraded habitats in need of rehabilitation, erosion control, invasion of undesirable or noxious weeds, and the loss of wildlife habitat.

4 We are extremely concerned regarding the long-term ramifications to fish and wildlife and their habitat which could result from implementation of the RMP in its present form. The overriding tone of this document implies that wildlife is a resource user which impacts the potential to develop or exploit other resources. We are in disagreement with this philosophy. We maintain that "fish and wildlife are resources" as recognized in the Federal Land Policy and Management Act of 1976 (sec. 103, a).

To satisfy our concerns, the prevailing philosophy behind the RMP must recognize soil, water, vegetation, fish and wildlife as the basic resources available on BLM land. Planning for development of other resources should evaluate the potential impacts these activities will have on the basic land resources, rather than the reverse analysis used in the RMP.

WILDLIFE

5 General: We support the management objective proposed in the preferred alternative, which is "to maintain and enhance fish and wildlife resources and provide for biological diversity of plants and wildlife resources." The document states (on pages 481 and 499 among others) that there is adequate forage for 1989 WGRPD Strategic Plan Objective levels. It is our understanding the BLM has not had the staffing to adequately monitor the range resource. Yet, the document implies that this has been done. The BLM should provide data to demonstrate there is adequate forage to provide for wildlife population objectives.

16-1 That is our overall goal within the wildlife program. The management objective for wildlife states "maintain and enhance fish and wildlife resources and biological diversity of plants and animal species within habitat capabilities." There is more discussion on all species within the Resource Area in the MSA. We discuss T&E species and other high profile species in the document for the benefit of the public.

16-2 Thank you for your comment. Our environmental documentation on the plan does not substantiate your concerns.

16-3 The RMP provides the framework for future planning. After completion of the RMP site specific plans will be addressed to take care of specific issues or problems, which is the next stage of the planning process.

16-4 Planning and development of mineral, realty, and other land use actions do analyze their impact to soil, water, watershed, vegetation, and wildlife resources as FLPMA dictates. This planning analysis looks at how commodity services and activities can co-exist with natural resource management in the Green River Resource Area. Wildlife is a resource and is considered as such. In some instances, management of wildlife can negatively affect other resources, especially habitat.

16-5 This is an assumption that was made for writing this document. Monitoring of the vegetation will be done to substantiate use and the BLM is in the process of gathering forage use data by allotment and special management area.

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Mr. Rod Miller
February 18, 1993
Page 3 - EIS 7007

- 6 In the statement, "To the extent possible, suitable wildlife habitat and forage would be provided to support wildlife populations defined in the 1989 Strategic Plan objective", it is unclear what "to the extent possible" means. Also, the most recent Strategic Plan update was completed in 1990. The Statewide Strategic Plan only presents objectives for statewide populations. District 4 Completion Reports are more appropriate for the RMP since they contain the objectives and population estimates for herds within the RMP Area. Wildlife objective and population data for 1992 are available and should be used in the RMP.

WGFD objectives are based on public demand within the limits of habitat capability. Due to changing annual winter severity, precipitation, forage production, and the lack of habitat data collected by land management agencies, "carrying capacity" is not calculated in the setting of objectives. The BLM implies in the RMP that this information exists and that 1989 Strategic Plan objectives conform to it. This is incorrect. To our knowledge, the only current information regarding wildlife habitat conditions within the GRR is in the Little Mountain area, and WGFD personnel collected that data.

- 7 Statements made on page 499 regarding the Sublette Antelope Herd objective and the impact to the range are incorrect. While the objective has been raised from 19,400 to 30,000, the actual antelope population was decreased to achieve the 30,000 level.

The objective of 19,400 antelope was not habitat based, but was the number of antelope managers thought were present when the objective was set in the late 1970's. Later analysis indicated there was at least double that number. Better population estimation techniques have improved our knowledge of the herd. The objective change reflects a better estimate and it is not an actual increase in the antelope population.

- 8 The RMP states that about 67,000 acres of habitat would be treated for wildlife. We applaud the BLM's efforts to treat wildlife habitat. This still represents a small percentage of the resource area, so we encourage the BLM to treat as much habitat as time and money allow. Habitat treatments should benefit wildlife and livestock.

- 9 Page 34 - The DEIS states that existing forage reservations for wildlife and wild horses would be maintained. The BLM should identify in detail the existing forage reservations and how much it reserves for wildlife and wild horses compared to livestock. Also, documentation should be provided of where adequate forage is located to meet current objective levels of wildlife populations. The BLM should clarify whether there is excess forage reserved that would allow the increase of wildlife population objectives and if it would consider reallocating unused livestock AUMs to wildlife. If livestock grazing was increased to the recognized active preference, would sufficient forage be available for current wildlife and wild horse populations without habitat damage? In addition to providing habitat for

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Mr. Rod Miller
February 18, 1993
Page 4 - EIS 7007

big game and T&E species, the BLM should provide and maintain adequate habitat to support all other indigenous wildlife and fish species.

- 10 Page 102 - Land disposals can involve big game winter habitat. Winter ranges are often the limiting factor for big game populations. The BLM should avoid disposing of winter ranges and acquire additional winter range whenever possible.

In recent years, the WGFD has made numerous comments in response to BLM realty actions regarding the need to protect corridors along the base of White Mountain to protect pronghorn winter range and migration routes. However, these comments have apparently not been considered in the development of the draft RMP. During moderate to severe winters, antelope use this area intensively. The 1983-84 winter was the last time a major problem occurred, but on February 3, 1993 five groups of several hundred antelope each were observed on White Mountain Rim and in the undeveloped area between White Mountain and the City of Rock Springs.

We recommend the BLM reevaluate this section of the plan and address this issue. Specifically, we recommend deleting the following parcels from the suitable disposal list: T19N R105W E1/2, E1/2 of section 8 and section 16, lots 5-16. We recommend adding the following parcels for acquisition: T19N R105W section 5, 17, 29 and 31 and T18N R105W section 6.

- 11 Pages 185 & 186 - Animal Damage Control (ADC) activities are discussed for the Preferred Alternative. Both Alternative B (page 275) and Alternative C (page 321) state that minimum viable predator populations would be maintained. The Preferred Alternative does not contain such a statement. In the alternatives where minimum viable predator populations are proposed, we question why badgers, bobcats, mountain lions, and black bears, which are considered furbearers or trophy game animals by Wyoming statutes, are included.

- 12 Page 151 - Table 2-10: Cooper's Hawk: Restrictions should be through 15 August. Merlin: Restrictions should be through 15 August.

- 13 Page 184 - Management Actions: High value wildlife habitats should include Utah juniper habitat due to its importance to the Utah juniper obligates. These species include: Ash-throated Flycatcher, Scrub Jay, Plain Titmouse, Bush-tit, and Scott's Oriole. All are listed as Priority III Species by the Wyoming Game and Fish Department.

- 14 Page 320 - Management Actions: Habitat protection should include Utah Juniper habitat because of its importance to the Utah juniper obligates listed above.

Page 427 - The DEIS states that water developments have helped to improve antelope distribution. It should be noted that water developments on winter ranges can have a detrimental impact in some instances by holding antelope on winter ranges during the non-winter period.

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- 16-6 The RMP was started in 1989; the population objectives analyzed were for that period of time. You are correct; carrying capacity is not figured in setting objectives. As stated above, BLM accepted Wyoming Game and Fish Department numbers, and monitoring of forage availability and use over time will set numbers.

- 16-7 The numbers have been revised to reflect the 30,000 antelope.

- 16-8 The 67,700 acres is an estimate for purpose of analysis. We are not limited to this amount and it is a good possibility more may be identified as activity plans are written.

- 16-9 The current BLM policy is that monitoring of habitat will determine use levels by animals. Original reserves for wildlife were set aside during the adjudication period from the vegetation surveys of the 1960s. With the passage of the Wild Horse Act, some reservations were set aside for wild horses in early AMP development in the late 1970s. In 1983, Bureau policy was redirected so that active preference would be carried as is until monitoring determined otherwise. The DEIS states that the BLM feels there is adequate forage for wildlife population objectives. Activation of non-use would be monitored under current management prescriptions to ensure that resource damage did not occur. Multiple use resource objectives have and will be developed in activity plans to ensure the protection of all habitats. We have been and will continue to evaluate allotments and make adjustments as necessary.

The DEIS states on page 182, paragraph three, that adequate forage to support existing Appropriate Management Levels of wild horse populations would be insured. As noted on page 34 (Table 2-1) and page 145, livestock grazing preference may be reduced if necessary to provide forage for wild horses or wildlife. This will be accomplished through monitoring of resources.

- 16-10 We have considered your recommendation. The E½E½ of section 8 and lots 5-16 of section 16, T. 19 N., R. 105 W. have been deleted from the disposal list and sections 5, 17, 29 and 31 of T. 19 N., R. 105 W. and section 6 of T. 18 N., R. 105 W. have been added to the acquisition list. While we can understand the Wyoming Game and Fish Department concern over development and the loss of habitat, it is a fact of life that Rock Springs is growing and there is a need for public lands adjacent to the city for public purposes.

- 16-11 Animal damage control (ADC) is being handled in another document.

- 16-12 The stipulation dates for raptors are statewide restrictions. Site specific analysis would identify the need for revising these dates.

- 16-13 We are protecting this habitat at this time. These species are included in the MSA which is on file in the Green River Resource Area Office.

- 16-14 We are aware of the impacts associated with water developments in crucial winter ranges. These will only be allowed where wildlife will benefit and reviewed on a case-by-case basis. Water development on crucial winter ranges could be considered when consistent with habitat needs. See response to comment 16-13 for the Utah juniper obligates.

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Page 432 - Affected Environment - Birds: No mention is made of the Utah juniper obligate bird species. They are dependent upon Utah juniper habitat and are listed as Department Priority III species. The Ash-throated Flycatcher and Scott's Oriole are also Neotropical migratory birds that require Utah juniper habitat for successful breeding before migrating south of the North America border.

The Bushtit is a summer resident of this particular habitat type, also depending on it for successful breeding. This species is also experiencing a population decline continent-wide. Also, the Scrub Jay and Plain Titmouse are year-round residents of Utah juniper habitat.

- 15 Page 430 - T & E Candidate Species: The T & E Candidate list should include the spotted bat (*Euderma maculatum*). Habitat for the spotted bat exists in the GRRA, and in Hall's "The Mammals of North America", it is within the potential range. Resource decisions should not be made without conducting surveys for this species.

Page 439, 440 - Threatened, Endangered, and Candidate Species are discussed, but the Columbian Sharp-tail Grouse was omitted. This is a subspecies of sharp-tail grouse that was widespread over the western United States, but due to habitat degradation, now remains in only limited areas. It is likely that the GRRA at one time provided habitat for this species and with habitat improvement would likely be able to support sharp-tail grouse in the future.

- 16 The listing of affected species is inadequate as it relates to nongame birds, nongame mammals and amphibians, other than T & E species. The Department's 1987 "Nongame Bird and Mammal Strategic Plan" lists 27 nongame birds and 34 nongame mammals (including the black-footed ferret) as T & E or Species in Need of Special Management. There is no mention of these species in the RMP/EIS. Priority mammals which were expected to occur in the GRRA include:

cliff shrew	pinon mouse
cliff chipmunk	Merriam's shrew
meadow jumping mouse	silky pocket mouse
hoary bat	Great Basin pocket mouse
Townsend's big-eared bat	ringtail
canyon mouse	river otter

We recommend this list be included in the RMP/EIS and these species and their habitat be given consideration in BLM planning decisions.

- 17 Reference is made to a 1978 prairie dog inventory near Flaming Gorge. Prairie dogs are referenced in connection with black-footed ferrets in several places in the DEIS. However, the DEIS does not adequately address prairie dog acreage and distribution relative to black-footed ferret reintroduction and statewide prairie dog management. The Department's 1987

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"Strategic Plan for the Management of Black-Footed Ferrets in Wyoming" lists the 1996 objective as follows:

Reestablish at least 2 wild black-footed ferret populations in Wyoming and maintain these populations with a total of at least 80 breeding-aged adults.

Our success in Shirley Basin indicates successful reintroduction is possible, and establishment of one population is likely by 1996. Since Meeteetse appears unsuitable as a reintroduction site in the immediate future, it is likely we will have to reevaluate potential sites statewide, including as many as five in the GRRA. We recommend the RMP identify these five complexes as potential black-footed ferret reintroduction sites.

One site the Department evaluated in 1989, known as Kinney Rim, is also part of a significant prairie dog complex in Colorado. The current plan is to prepare the Colorado site for black-footed ferret reintroduction in the near future. The portion of the complex in Wyoming will probably be considered part of the experimental population in Colorado and may have other planning and legal associations as well.

The Department cooperated with Ashley National Forest in conducting a prairie dog inventory on Flaming Gorge National Recreation Area (NRA) in 1988. Our recommendation to the Forest was to retain the prairie dog ecosystem intact for preservation of prairie dogs and associated wildlife species and as a potential black-footed ferret reintroduction site. Therefore, we recommend the BLM manage adjacent lands in the GRRA to complement management of the prairie dog complex on Flaming Gorge NRA.

For planning purposes, the RMP should include a listing and map of all known prairie dog complexes of over 1,000 acres in size. According to USFWS Guidelines, these should also be considered potential black-footed ferret reintroduction sites.

The Department, in cooperation with federal and state land management agencies statewide, expects to produce a Prairie Dog Management Plan for Wyoming within 2 years. With this in mind, we recommend the RMP include objectives for prairie dog acreage and distribution in the GRRA for the period of the RMP.

- 18 The RMP/DEIS makes no mention of the value of bats and associated caves and abandoned mines in the GRRA. We know of only one cave located on private land in the GRRA, and a number of abandoned mines on public land. We do not recommend listing these in the RMP/DEIS, but the Resource Area Office should be aware of their locations. The RMP/DEIS should address the value of caves and abandoned mines to bats and any action such as closure or rehabilitation should be coordinated with the Department to ensure the protection of these wildlife habitats.

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16-15 Thank you for your comment. This information will be included in the MSA.

16-16 The Draft EIS requires listing of Federally recognized T&E species and Candidate plant and animal species. State listed "endangered" or "threatened" species are also needed if they occur in the resource area. All state listed species are included. Additional information is on file in the Green River Resource Area Office.

16-17 Information regarding prairie dog complexes is on file at the Green River Resource Area Office. The only prairie dog complex that was suitable for re-introduction of ferrets near the GRRA is the one mentioned in Colorado. It is anticipated that if reintroduction is successful in Colorado, the ferrets would move into the Kinney Rim area of the GRRA. This is the only site we are aware of that is large enough and continuous enough to be considered for re-introduction over the life of this plan. The discussion on ferret reintroduction is referenced in the document.

16-18 We are aware of the importance of caves and mines to bat populations and have done mist netting in the past. Small mammal inventory contracts also call for mist netting of all potential bat habitats.

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- 19 Page 481 - Environmental Consequences - Wildlife: No mention is made of the importance of Utah juniper habitat or the species that depend on it for survival.

RANGE/LIVESTOCK

- 20 Page 512 - "If livestock use levels increase to active preference of 318,641 AUMs over the next 20 years, more widespread overuse of forage could be expected in riparian areas as well as on uplands". Given this analysis, we question how the BLM can justify continuing with an active preference of 318,641 AUMs in its preferred alternative. As a first step, we recommend the active preference be the current level until the BLM can re-allocate forage based on an up-to-date inventory and site analysis.
- 21 Page 17 - The DEIS indicates that in site specific areas where livestock grazing conflicts with other management objectives (e.g. vegetation and habitat), information from monitoring studies will be used during activity planning to reduce or eliminate livestock grazing. We recommend these monitoring studies be implemented and completed within a reasonable period of time to make management decisions. In the past, BLM monitoring studies have remained ongoing due to lack of adequate data. Sound data and monitoring studies should be an objective of this RMP.
- 22 Page 32 - We suggest using wording from Alternative C for livestock "Management Action" on page 32 rather than the wording for the Preferred Alternative. This wording addresses the need to maintain sound ecosystem function with compatible livestock grazing use.
- 23 Pages 32 & 33 - There is potential for grazing to reach 318,647 AUMs. If the 5-year average has only been 180,000 AUMs, and there are serious resource concerns at this level, we question whether the 318,647 level is realistic. Throughout the documents, it is indicated that riparian areas are not functioning properly, localized overgrazing is occurring, and several allotments are considered "I" allotments because of declining trend and conflicts with other uses. It appears that an increase in stocking levels toward this higher figure would cause serious resource damage and would conflict with maintaining healthy wildlife populations. We recommend the preference be reviewed for a more realistic figure.
- 24 Page 35 - We believe that fencing is not the sole solution to livestock grazing management as indicated, and where conflicts with wildlife occur, herding may be an option. Where herding is necessary for proper management, it should be required rather than optional.
- 25 Pages 32-37 - The BLM did not incorporate management actions into the RMP regarding maximum vegetation utilization rates or residual/stubble height requirements. Ample research is available indicating utilization rates above certain levels are detrimental to plant vigor and long term survival. What methods will the BLM use to determine if livestock grazing should be discontinued or reduced during a given year or season? Without

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maximum utilization rate standards incorporated into the RMP, there is no readily available method or trigger mechanism which could be used on a short-term basis to support removal of livestock grazing on all or part of an allotment if conditions warrant. With the current emphasis on the management of riparian areas, it would be reasonable to incorporate maximum utilization rates by season in these key areas.

- 26 Page 37 - "Unallotted forage" (15,100 acres) on public lands - We prefer Alternative C on this matter.
- 27 Page 104 - Localized overuse of forage would continue and could increase, and riparian areas could decline under the Preferred Alternative. Alternative C is "same as preferred". If the grazing level use was 413,000 AUMs as stated on page 103, it is probable overuse would occur and riparian areas would decline.
- 28 Page 108 - The document indicates AMPs would be developed. In the alternative section there should be an objective regarding the number of AMPs to be developed per year during the planning period. This would assist managers in scheduling and, hopefully, in obtaining necessary funds for this work.
- 29 While we oppose water development on wildlife crucial winter ranges, we strongly urge the BLM adopt a policy regarding protection of natural springs and man-made and natural ponds. We recommend all natural springs and natural and man-made ponds be fenced and off-site water troughs be made available for livestock and wildlife. The trampling effects of large numbers of animals on these water sources are well documented as are the benefits of protection.
- 30 Page 518 - The DEIS states: "During the development of AMPs, available livestock forage would be based on suitability criteria (slope, badlands, distance from water, etc.)..." We fully support the application of suitability criteria in determining proper stocking rates in the development of AMPs.
- We question whether current data were collected on range conditions, or if outdated existing data were compiled into an organized format for the RMP. Moreover, is this data adequate to change or improve livestock management where needed? If not, this should be explained in detail in this document.
- 31 There is potentially significant impact to birds, bats and other small mammals from oil reserve pits. The RMP/DEIS should recognize this potential impact and should include mitigation measures to deal with it.
- 32 Appendices 9-1 to 9-10. The allotment numbers and categorization of allotments are not consistent between appendices.

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- 16-19 See response to comment 16-13. The importance of the Utah Juniper habitat is mentioned under the Vegetation Section (Juniper Class) of the Affected Environment. The species that depend on it are listed in the MSA.
- 16-20 The preferred alternative portion of the RMP was revised by placing guidelines on riparian areas and the use that occurs on them to address the grazing impact.
- 16-21 BLM's policy is to use long-term monitoring to make adjustments to grazing use. The GRRA is monitoring all of our high priority allotments and allotment evaluations are being completed. A visit to our office will provide you an update on scheduling.
- 16-22 Our planning team used information available to recommend the Preferred Alternative. We have carried some Alternative C actions over into the Preferred Alternative but have chosen not to carry over all Alternative C actions. Thank you for your recommendation for livestock management. This advice has been considered, along with all other public comment provided, in preparing our proposed alternative.
- 16-23 As stated through the entire document, the 318,641 AUMs is the active preference level. The 180,00 level is the actual use taken over a five-year period. To adjust the active preference level for any allotment, monitoring must show what the active preference level should be to meet or exceed the resource objectives in the activity plans. We cannot adjust or analyze any other figures for any allotment until an evaluation has determined what the active preference level should be.
- 16-24 Page 35 of the Draft EIS states that fencing would be allowed provided conflicts could be resolved. Herder control of livestock is always encouraged as the first line of control. However, there are instances where herder control alone will not meet the resource objectives.
- 16-25 The Final has been revised to include guidelines for utilization levels as to proper functioning condition of riparian areas. The DEIS stated that desired plant community objectives would be developed for upland sites.
- 16-26 Thank you for your comment.
- 16-27 Thank you for your comment. See response to comment 16-23.
- 16-28 All allotments have been categorized and prioritized as to time of development and implementation. This information is available in the Green River Resource Area Office. Range Program Summary Updates are released every 5 years.
- 16-29 BLM policy and guidance allows for resource protection or further development as necessary. Because conditions on each site varies, each spring, pond, reservoir, and wetland may have a site specific management prescription. Also see responses to comments 4-1 and 10-19.
- 16-30 This document is not designed to evaluate monitoring data for each activity plan. The Resource Area contains monitoring files for each allotment and this data will be evaluated to determine where changes are needed for improvement of habitat.
- 16-31 See response to comment 10-30. The GRRA requires that all reserve or production pits that are required for longer than two weeks be netted. BLM biologists have stated that oil and gas companies have complied. The DEIS has a statement in the "Affected Environment" section that reserve pits and some

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HABITAT/HABITAT TREATMENT

- 33** We support the vegetation management objective "to provide for plant diversity (desired plant community) to meet wildlife, watershed, wild horses, and livestock management objectives and design vegetation treatments to meet these objectives". In addition, we support the management action that "desired plant community objectives would be established for the planning area if possible when ecological site inventory data becomes available." These data should be of the highest priority.
- 34** The preferred alternative states that 67,700 acres will be treated to increase forage availability and to enhance wildlife habitat, with prescribed fire being the preferred method of treatment. However, no time frame is given over which these treatments would be accomplished. We support this approach to vegetation management on BLM lands. In addition, we are in agreement with the consideration of other treatment methods on a case-by-case basis, designing treatments to create diversity and edge, and the mandatory rest of two growing seasons following treatment.
- 35** Efforts to complete prescribed burns on federal lands have met with some resistance in the past. The problem is livestock rest, or the inability or unwillingness of permittees to agree to 2 years rest. As stated in the DEIS, "overstocking could occur in portions of an allotment if livestock numbers are not reduced to compensate for loss of burned acreage for 2 growing seasons." Efforts should be made to find creative ways to provide the necessary rest. Rest-rotation pastures (rest-rotation should be an ultimate goal on most allotments) could allow for this, or perhaps common allotments that would be available for use while a permittees allotment is receiving rest. These allotments could be used as a reserve for livestock removed from rested pastures. Perhaps range budgets or improvement monies (8100 funds) could be used to cover some lost revenues or to hire riders to properly distribute livestock away from recent treatments. We strongly need vegetative enhancements and innovative programs to get things done.
- 36** "Prescribed burns generally would be conducted in areas having greater than 35% sagebrush composition....". Where sagebrush canopy cover exceeds 20-25%, we feel burning is justified based on ecological status. Composition information is usually not available to determine suitable areas on a large scale. Also, is this referencing production, density, or frequency of sagebrush? A certain level of fine fuels are usually necessary, so herbaceous production criteria may be desirable.
- 37** The statement "riparian and adjacent upland areas would not be treated simultaneously" is confusing. Treating both areas at once could be necessary to obtain rest and still be able to treat both areas. If proper precautions and rest are applied, there is no reason both areas cannot be treated.

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- 38** Page 18 - Timber harvest is only one method of managing for a healthy vigorous forest ecosystem. Due to the limited commercial value of timber products in the GRRA, other methods should be identified to manage for healthy forest ecosystems.
- 39** Page 22 - The visual stipulations for archaeological/historical sites should include an exception for prescribed fire. Fire could be used to maintain vegetation and wildlife habitat objectives without significantly sacrificing archaeological values, similar to exceptions made for concentrated oil & gas development.
- 40** Page 24 - The RMP should include a commitment and time frame for developing and implementing an Area-Wide Unplanned Ignition Fire Management Plan. The plan could identify general prescriptions and areas where wildlife habitat/range management objectives would be met with unplanned ignition. There are times when an unplanned ignition could provide beneficial habitat treatment.
- 41** Page 25 - The RMP calls for suppression of forest fires in all forested areas, including full suppression of wildfires on Pine, Hickey, Little and Steamboat Mountain Area Conifer Communities. These conifer communities should be priority areas for plans that provide prescriptions for unplanned ignition fires. We disagree that all fires in these types should be lumped into "wildfire" status. These conifer communities contain subalpine fir stands that are difficult to manage with commercial harvest and fire wood cutting. Thus, fire may be the only feasible way to treat these stands.
- 42** Page 26 - The Management Objective for Forest Resource Management in the Preferred Alternative should be rewritten. Use of the words "goals, objectives, and restrictions" in the objective without indicating what goals, objectives, and restrictions are being referred to, is confusing.
- 43** Page 26 - Under Alternative C, a 100' no logging buffer zone along streams and standing water is proposed. The Preferred Alternative does not have a buffer zone. Should a buffer zone be included in the Preferred Alternative?
- 44** Page 27 - We recommend that stand diversity be a priority in timber management. Stand regeneration, thinning, and other timber practices should be done in such a way as to maximize stand diversity.
- 45** Page 27 - The plan states that woodland acreage would not be converted to other vegetation types but mature stands could be treated to improve wildlife habitat. This statement is a contradiction. Prescribed burns or other treatments in monotypic juniper stands to convert to shrub or grass/forb community (earlier seral stage) are required to enhance wildlife habitat diversity. Woodland stand conversions may be necessary to promote vegetative communities that enhance or maintain watershed function. Cottonwood and aspen would be the exception. Treatments should be designed to regenerate aspen for habitat/watershed improvement rather than a

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production facilities represent a hazard to wildlife and what precautions are being taken to eliminate or reduce mortality (e.g., netting, screening of exhaust vents, etc.)

- 16-32** The categorizations have been corrected.
- 16-33** Thank you for your comment and support for this concept.
- 16-34** This is the amount that has already been identified for treatment. This does not prevent us adding more in the future. Rest for two growing seasons is BLM policy. Other treatments would be considered on a case-by-case basis.
- 16-35** The Bureau policy is that any prescribed burn will have at least two growing seasons of rest. There have been a few problems with compliance, but overall, the permittees have complied with the policy. Creative efforts have been taken in accomplishing the rest required for prescribed burns. That is evident in the amount of acreage that has been treated in the Resource Area to date. Range improvement money (8100) cannot be used to cover lost revenues or pay range riders. The control of livestock is the responsibility of the permittee.
- 16-36** Thank you for your comment. We will consider other vegetation densities on a site-specific basis. Canopy cover represents the fundamental pattern and percentage of mosaic that will take place. Composition usually defines the ecological effect of the treatment. Herbaceous production would be useful for rate of spread and ignition probability, providing it represented the amount located on site, at the time of ignition.
- 16-37** Land treatments often temporarily increase runoff and erosion. Desynchronizing the treatments of riparian and upland areas helps to disburse overland flows. This helps to reduce erosion and preserve water quality.
- 16-38** This statement is true; there are other ways to manage for a healthy forest ecosystem. We can use thinning in younger stands and stand eradication through fire or mechanical means to eliminate diseased or decadent stands.
- 16-39** The plan does not prohibit prescribed burning where any historic or archaeological site is concerned. However, prescribed burning is a Federal undertaking and must be done in accordance with Section 106 of the National Historic Preservation Act. This means that appropriate lead time and planning must be done to ensure that historic properties (i.e., historic or archaeological sites) are taken into consideration. This includes consultation with the SHPO concerning the appropriate level of information needed to identify historic properties, evaluation of the significance of historic properties, and consideration of the potential effects of the burn upon these properties. These considerations include visual concerns as well as other potential effects.
- 16-40** After the plan is approved, there is a period for implementation. During this period, activity plans are developed for achievement of objectives outlined in the RMP. A fire management activity plan will be developed for each area identified in the RMP for the use of unplanned ignitions.
- 16-41** A forested area intercepts and stores more snow than an equivalent area covered with sage and grass. Thus, the limited amounts of forested area within the Green River Resource area are important to the local water tables. This, in combination with the uniqueness of the forested environment in this area, has prompted a greater level of concern. Wild fires most often occur at times of low fuel moisture and higher temperatures, conditions that make suppression difficult. Prescribed fires have a much greater chance of producing the desired cleansing effects while avoiding undesirable damage.

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conversion from aspen to another vegetation type. Moreover, objectives should include expanding acres of cottonwood and aspen types. Actions to promote regeneration and/or protection of aspen stands should be proposed, including estimated number of treatment areas or acres.

- 46** Pages 27 & 28 - Old growth forest stands are an extremely important aspect of forests on public lands and associated wildlife requirements. The proposed alternatives should have objectives and/or management actions regarding old growth forests or stands with old growth characteristics. Have any stands been identified or will any stands be managed to provide old growth 50 or 100 years into the future?
- 47** Page 28 - The harvesting of cottonwoods is prohibited under all alternatives. But past management has allowed cottonwood stands to be removed or substantially degraded. Actions need to be defined which would promote the regeneration of cottonwoods, especially in riparian areas where they historically existed or where remnant populations still exist. What will be done to ensure cottonwoods of various age classes are available for the future?
- 48** Page 32 - The RMP definition of "proper functioning riparian condition" is inadequate. The definition should include riparian habitat/vegetation potential and criteria that provide quality wildlife and fisheries habitat.
- 49** Page 54 - We believe the definition and interpretation of "Desired Plant Community" can have several conflicting meanings and applications. We recommend that vegetation be managed towards ecological potential of vegetative communities, rather than using a subjective definition like "desired".
- 50** Page 55 - We question whether sound vegetation management will be obtained from this RMP when ecological site inventory data is lacking. We recommend the BLM should commit to obtaining this information and developing desired plant community objectives.
- 51** Page 55 - We disagree with limiting prescribed burns to areas with >10" annual precipitation. Areas in the 7" - 9" precipitation zone should be considered for prescribed burning. Evaluating for feasibility should then be conducted on a site specific basis.
- 52** Page 56 - Sagebrush treatment - We recommend that the limit of sagebrush treatment within crucial big game winter range during a 10 year period be increased from 10% to 20%. Moreover, the 20% limit should apply to crucial winter ranges within a given herd unit for each species, rather than 20% of all combined deer and antelope crucial winter range within the entire GRRA. All sagebrush treatments on crucial winter range should meet objectives that address long-term vegetative potential and condition for sagebrush-grassland habitat (including salt desert shrub, mixed mountain shrub, and woodland habitats where applicable).

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- 53** Page 56 - We support the BLM plan to rest vegetation treated areas for two growing seasons.
- 54** Page 57 - Restrictions on treatment of vegetation adjacent to perennial streams is given in the Preferred Alternative, Alternative A, and Alternative C. The stated management action should be revised to allow treatment of vegetation next to perennial streams if the specific objective is to enhance streamside vegetation. For example, it may be desirable to burn decadent willows to improve forage quality for moose.
- Page 57 - We believe that there needs to be site-specific exceptions to the statement all riparian and adjacent uplands cannot be treated simultaneously. As an example, many first order streams (spring sources, seeps, intermittent and ephemeral streams, etc.) would require simultaneous prescribed burning to improve upland and riparian vegetation to integrate watershed function. Managers should have the flexibility to make exceptions if it is determined to be sound management. There may also be times when waiving the 100' buffer requirement would be beneficial to the management of the riparian area.
- 55** Page 102 - Generally, we feel that loss of habitat and negative impacts to wildlife from wildfires would be short-term. Any negative short-term impacts would be outweighed by long-term benefits to wildlife habitat.
- Page 172 - In the vegetation management section it is mentioned that desired plant community objectives will be set for the planning area. The WGFD recommends that special attention be given to maintaining or enhancing mountain shrub communities since they provide important habitat for many wildlife species.

COAL MINING

- 56** In June 1991, the WGFD commented on a BLM scoping document regarding coal unsuitability requirements. On page 11 of the scoping document, it stated that under criterion 15, big game winter ranges were examples of lands which serve a critical function for the species involved. It also stated that these areas shall be considered unsuitable for coal development if jointly agreed upon by the surface management agency and the state.

In our comments we agreed that these types of lands should be considered unsuitable for development. Since that time we have not been contacted by the BLM in order to develop a joint agreement.

In the draft RMP, no acres of land were considered unsuitable under criterion 15. The greater Cooper Ridge and Elk Butte areas were determined to be acceptable pending further study.

The potential of a nearly continuous coal mine from the existing Bridger Mine to Bean Springs is of grave concern. There must be areas within this corridor which are off limits to coal mining based on criterion 15.

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- 16-42** It would be difficult to list all of the objectives, restrictions, and goals we may have in the future. This is just a qualifying opening statement. Objectives and goals can be rather site specific. However, the objective has been rewritten in the Final EIS.
- 16-43** See response to comment 11-2.
- 16-44** This comment refers to age-class diversity within a timber stand. We do our best to promote age-class diversity in the GRRA timber stands. Thinning does not necessarily bring about diversity.
- 16-45** This is not necessarily a contradiction. Patches of trees can be removed and leave the perimeter and not lose forever the marginal areas to another vegetation type. This was mainly a consideration in lodgepole pine stands. In juniper woodlands, watershed or wildlife interests may want to eliminate some stands. Prescribed burns in juniper stands are not always practical or feasible due to the shallow soils, steep slopes, and sparse fuels which characterize most of the juniper habitat. It would be difficult to expand the area of cottonwoods unless we allow flooding on river bottoms.
- 16-46** "Old Growth" is a concept that is not well understood, nor clearly defined for the timber stands in our region. There are no stands designated as "Old Growth" in the Green River Resource Area as yet, but forest managers are currently working on standard descriptions to use in identifying these stands. Once these descriptions are available, the BLM will use them to identify and inventory such stands and include them in future interdisciplinary activity plans.
- 16-47** Many areas are not capable of naturally sustaining populations of cottonwoods any longer. Plantings can occur in many areas and, as funding and time allow, this will occur. Increased riparian management is the key to cottonwood management although dams and the resultant flow regulation are hindering cottonwood seedling establishment. WGFD has even agreed that cottonwood stands along the Green River are decreasing. Should an area be suitable for naturally reproducing and establishing cottonwoods, and it is determined that it should be a percentage of the desired plant community, establishment and maintenance of them would be a priority.
- 16-48** The definition of Proper Functioning Condition (PFC) has been established by the Bureau for use nationwide. The use of PFC does not preclude the establishment of desired plant community or potential natural community goals or objectives. PFC can be viewed as the minimum standard by which streams (and for that matter lakes, ponds, seeps, springs, etc.) should be judged as acceptable. A BLM technical reference is in the process of being completed on this subject.
- 16-49** The desired plant community concept is based upon scientific data and must be supported by potential.
- 16-50** The GRRA has ecological site data for approximately 50% of the resource area. Due to budget constraints, the GRRA plans to do ecological site mapping on a case-by-case basis as is necessary for developing land use plans.
- 16-51** The 10-inch zone is an effective cutoff due to known recovery rates following burning treatments. This does not mean that we will not consider burning as a treatment in the 7-9" precipitation zone. However, other treatments may be more desirable for effect, time of rest, and cost effectiveness.
- 16-52** Vegetation treatment of specific habitats will be detailed in the project planning document or habitat management plan.

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Loss of plant communities in the lease areas may not be significant on a state-wide level. However, locally, these habitat types are limited in abundance and provide critical habitat diversity for a variety of wildlife species (i.e. aspen, mixed mountain shrub, - serviceberry, mahogany, bitterbrush and woody riparian species communities).

Page 39 - The management actions in the coal section include opening an additional 386,392 acres to further consideration for leasing and development in the Coal Development Potential Area compared to current management. The Preferred Alternative also would allow leasing and development in crucial big game winter ranges and birthing areas. Unfortunately, there is no indication elsewhere in the documents that other forms of development would be precluded in key areas to mitigate for coal development. Is the BLM committed to mitigating the impacts of major developments? If so, how will this occur?

Page 41 - Coal & Big Game Critical Winter Range - We prefer "Alternative C" which prohibits any further leasing of Coal & Development of Big Game CWR. More consideration of coal development impacts should be given to ecosystem fragmentation and habitat loss for all wildlife species in the GRR. At the very least, coal development that removes crucial winter range and other important wildlife habitats (i.e. riparian wetland, etc.) should be required to be replaced in kind to address cumulative impacts. Moreover, coal companies should be made aware of mitigation costs and implications of restoring habitat, prior to the leasing process.

Page 655 - Riparian and Wetland Criterion - How is the loss of wetland acres from coal leasing reconciled with current policy which calls for no net loss of wetlands? The RMP should identify jurisdictional wetlands prior to the leasing of coal, and should identify those wetlands that will be lost and cannot be replaced in kind. Also, lessees should be informed of acceptable mitigation techniques and costs during the leasing phase and not after approval of coal development.

MINERAL MANAGEMENT

57 Page 31 - Under all alternatives except Alternative A, the no action alternative, about 3.5 million acres of withdrawals, most of which are related to minerals, will be revoked. This is one of the most significant actions proposed for the RMP. It will have tremendous impacts on wildlife. Other actions, restrictions, or new withdrawals proposed throughout the draft RMP to protect wildlife habitat will not mitigate this proposed action. Maintaining the existing withdrawals is proposed under Alternative A. If revocation of the existing withdrawals is pursued, additional mitigative measures to protect wildlife habitat and related recreation need to be incorporated into the plan.

58 Page 38 - The management actions in the oil and gas section appear indicative of the lower priority wildlife and recreation are given in the

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proposed Preferred Alternative. In the Preferred Alternative, 724,590 fewer acres would be afforded seasonal restriction protection than under current management. If the same amount of oil and gas would be produced in Alternative C as the preferred alternative, why not use Alternative C which has more protective measures for wildlife?

We approve of the objective to enhance opportunities for mineral exploration and development while protecting other resource values. We question, however, how this will be accomplished, especially since specific recommendations for mitigation are lacking. The RMP should identify reclamation and mitigation actions the BLM will require to replace wildlife habitat as a result of surface disturbing activities associated with mineral exploration and development.

59 Pages 48 & 49 - In the geophysical section, management actions need to specifically address the problem of geophysical exploration routes not being adequately reclaimed but rather being turned into new roads and trails that often become highly eroded. A management action to rehabilitate old geophysical exploration routes should also be incorporated into the plan.

WATERSHED/SOILS MANAGEMENT

60 Many of the items discussed under vegetation and livestock management pertain to watershed management but they are not tied together. More specific actions should be listed such as intensified livestock management (grazing systems) and vegetation treatments to meet management objectives associated with soil erosion, increasing vegetative production, etc.

This section seems rather vague without much identification of some of the major contributors to watershed degradation including poor livestock management and vegetative succession. More emphasis could be placed on recharging aquifers through certain vegetative changes, increasing beaver activity, etc. A wide array of techniques exist for improving watersheds, but must be used in combination in order to improve the entire watershed.

ACEC

61 Pages 76 & 77 - The WCPD supports the designation of the Monument Valley Area as an ACEC because of its unique characteristics. The primitive nature of the area provides important habitat for raptors, furbearers, and big game. The area provides one of the few remaining places in the GRR that allows for wildlife related recreation in relative isolation. The reasons for the unique opportunities in this area are the few roads and lack of exploration and development activities that have occurred because of the existing withdrawal. We agree that travel should be limited to designated roads. If the oil shale withdrawal is revoked and mineral activities are to be allowed, vehicular travel off designated roads should be prohibited (i.e. should not be allowed under the "necessary task" loophole). A travel management plan for the area should be developed prior to the revocation of the oil shale withdrawal. Slopes greater than 25% and areas with highly

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16-53 Thank you for your comment.

16-54 We agree. Changes have been made in the text to accommodate these exceptions.

16-55 Thank you for your comment.

16-56 See response to comment 11-6. The coal study done in 1981 described only those areas that in 1981 were thought to have high or moderate potential for development. It ignored those areas with low potential. The present Draft EIS has larger acreage figures in its decisions simply because a larger area was analyzed.

The RMP only screens potential areas for consideration for leasing. Only at the next stage would we know for sure the type and amount of wetlands to be impacted. "No net loss" implies some type of replacement mitigation, it does not mean "no loss". Any loss or impact, of course, would need to go through the permitting process. At that next stage (mine plan and EIS) wetland losses could possibly be determined as not acceptable. It's a site specific determination.

16-57 See response to comment 11-3.

16-58 See response to comment 11-3. More wildlife related seasonal restrictions have been proposed under the Preferred Alternative than in Alternative A. Seasonal restrictions for moose and deer parturition areas have been added. The total area of seasonal restrictions is reduced, because high value lambing areas were determined to no longer require this type of restriction.

Oil and gas production will not be the same for the Preferred Alternative and Alternative C. Less production will occur under Alternative C, because additional restrictions will cause fewer wells to be drilled.

Chapter 2 describes management practices for and uses of the public lands and resources. Four management plan alternatives are presented. Appendices 2, 3-1, 3-2, 3-3, 5-1, 5-2, 5-3, 6-1, 6-2, 7-1, 7-2, 7-8 (in Draft EIS), 7-9 (in Draft EIS), 8-2, 9-3, and 9-5 provide a broad range of mitigation actions and procedures to be used in protecting area resources. In addition, reclamation and mitigation proposals will be studied and tailored to address concerns identified when individual environmental assessments are prepared for specific project proposals.

16-59 Prior to the late 1960s, it was a common practice for seismic lines to be bladed. This is not true today. The current geophysical vehicle movement practices do not routinely create erosion problems or encourage public use of the faint temporary marks left. The BLM has required operators to reseed and rehabilitate many of these lines, particularly in the Farson area. However, it is also true that hundreds of miles of old bladed lines were not reclaimed. Reclamation of these areas will be considered in activity planning on a case-by-case basis when environmental documents are developed for exploration.

16-60 Thank you for your comment. Site specific activity planning will consider vegetative changes, beaver activity, and recharging aquifers.

16-61 We currently lack resource information on paleontology, cultural, watershed, and other values to determine if the area meets ACEC criteria. The area is not proposed as an ACEC at this time; however, we will work to acquire a more thorough data base. It should be noted that the reason for lack of development has nothing to do with existing withdrawal, as

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erosive soils should be closed to surface disturbing activities rather than just avoidance areas under the preferred alternative.

62 Page 85 - Steamboat ACEC - We strongly support protecting this unique area. Vegetation management should address enhancement and maintenance of all wildlife habitat using a watershed/ecosystem approach, not just mowing on big game forage and cover requirements. Habitat improvements tend to fail when they are designed and managed for a single wildlife species. Thus, projects should enhance and diversify all vegetative communities for the benefit of all wildlife.

63 We prefer the Steamboat Mountain area be closed to mineral location. We would also prefer Pine and Little Mountain included in the ACEC designation for the Tri-State Monument Area as outlined in Alternative C.

64 Page 112 - Under the section on the Natural Corridors ACEC, it is stated that wildlife and livestock grazing adversely affect riparian zones. We were not aware that wildlife numbers in this area were causing damage and we request additional opportunity to discuss this issue.

65 Page 117 - We are not sure how improved wildlife management will result in less erosion; we question whether wildlife numbers are causing accelerated erosion now.

RECREATION

66 Page 32 - Access easements should be actively pursued on an ongoing basis. Public desires, resource needs, and easement opportunities are dynamic through time. To limit access easements to 300 acres for the life of this plan is not a proactive strategy.

67 Page 32 - Under all alternatives, easements to public lands would be obtained (about 300 acres). In other parts of the document, it is indicated that access to the checkerboard lands is currently available because of the cooperative nature of the present landowners. The WGRD acknowledges that access to both public and private lands for recreation purposes within the checkerboard area in the GRRA is very good. But, access to checkerboard lands in other parts of Wyoming is often limited, resulting in thousands of acres of public lands being unavailable for recreation use by the general public. The WGRD recommends that the BLM incorporate into the Preferred Alternative proactive objectives and management actions which would secure public access to the public lands within the checkerboard area for the future.

68 Page 49 - ORV management is an issue which will likely become even more controversial in future years. It can be expected that conflicts between other resources and public land users will also increase. Generally, it appears that restrictions on ORV use will be lessened as areas currently closed to ORV use (56,575 acres) will have that restriction lifted.

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Page 50 - Both Alternatives B and C indicate site specific transportation plans would be developed for areas where vehicular travel is limited to designated roads. The Preferred Alternative did not indicate transportation plans would be developed. Was this an oversight? In addition to site specific transportation plans, it would be valuable to have a complete transportation plan for the entire resource area that showed all existing roads and trails.

69 Page 52 - Continental Divide Snowmachine Trail - We cannot agree to any additional loop trails that expand the Continental Divide Snowmachine Trail into big game winter ranges on the Wind River Front. All crucial winter ranges should be protected from winter recreational developments.

70 Page 101 - Recreation user days would increase due to the increase of the population related to mineral development. It should be noted that hunting and fishing are the major source of recreation days on public lands. Increases in mineral development tend to negatively impact wildlife populations which necessitate the restriction of hunting and fishing opportunities.

71 Page 170 - The RMP states the BLM would support development of a greenbelt between Fontanella & Flaming Gorge Reservoirs. We would like to know what effects the greenbelt would have on wildlife habitat and watershed/riparian conditions if the BLM manages the area for "recreation". BLM lands in the GRRA that support riparian habitat should be managed primarily for sound watershed/riparian and wildlife habitat conditions, while allowing uses (e.g. recreation) that do not jeopardize the quality and function of riparian habitat. This is also inconsistent with the preferred alternative for new recreation sites (i.e., "sites would not be developed within 500' of riparian areas and floodplains").

WILD HORSE MANAGEMENT

72 Page 63 - We question how feral horse population levels are determined and what correction factor is applied to the number counted in order to estimate population size. Based on our experience with wildlife, we caution against using aerial censuses as a total count. Development of water on crucial big game winter ranges specifically for "wild" horses where water currently does not exist would likely decrease the amount of available winter forage for horses. If water developments are needed on horse winter ranges for improved distribution during the summer months, horse populations are too high for available summer habitat. We prefer the wild horse alternative which results in the fewest horses.

MISCELLANEOUS COMMENTS

73 Page 61 - We agree that rehabilitation plans need to be developed and implemented for disturbed sites. We support the development of plans for the larger acreage of disturbed sites given in Alternative C. There is a need to develop a rehabilitation or management plan for entire watersheds

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most of the area except for the WSA has been leased for oil and gas. Transportation planning has been identified as a key element in managing this area. Please note the changes in Chapter 2 of the RMP Final EIS. Oil and gas leases and other actions do have slope restriction stipulations.

16-62 Protecting the general biodiversity of this area is the goal of the management prescriptions for Steamboat ACEC and is a stated objective in this plan. However, elk are the flagship species most people associate with this area and are concerned about. Development of a management plan for this area will consider neotropical birds, resident wildlife, and maintaining diverse plant communities.

16-63 Although a withdrawal recommendation is not being made at this time, we have indicated that should one become necessary, we would pursue such a withdrawal in the future. The need for withdrawal would be determined through the ecosystem management plan. We have recommended that Steamboat Mountain be designated an ACEC, which would require any mining plan to address how the mine plan would ensure that there were no detrimental effects to the elk herd. In addition, there is very low potential for locatable minerals in this area.

Little Mountain is a part of the Tri-State area, now renamed Greater Red Creek. Pine Mountain and the Sugarloaf Basin area west of Little Mountain have not been included in the proposed Greater Red Creek ACEC (formerly Tri-State) but have been identified as separate management units. Please see the changes in the RMP Final EIS.

16-64 The statement in the document is wrong. There is no documentation that wildlife use has contributed to riparian habitat degradation.

16-65 This is an opinion but it is definitely possible for wildlife to create accelerated erosion in some cases.

16-66 At this time, the public enjoys virtually unlimited access into the "checkerboard" lands that lie in the Green River Resource Area. However, since U.P. Resources and the Rock Springs Grazing Association have never denied public access, we thought it would be prudent not to address this issue on access at this time. However, if this becomes an issue in the future, we could re-visit this issue. Other than the checkerboard land pattern, very few access areas have been identified.

16-67 The GRRA agrees with the Wyoming Game and Fish Department that access to the checkerboard is good, because of the cooperative nature of the landowners. The checkerboard area in the GRRA takes in approximately 2 million acres, of which 1 million is public lands. During the scoping period, this was not addressed as an issue; therefore, it was not identified in the plan, but if access becomes an issue, there is no reason that it can't be addressed.

16-68 Under the preferred alternative, 174,994 acres are closed to all forms of vehicle use. Under the preferred alternative, the document states an "ORV implementation plan would be prepared to replace the two existing ORV plans" for the Green River Resource Area. An Off-Road Vehicle implementation plan is intended to do the same thing as a transportation plan, as mentioned in Alternatives B and C.

16-69 No additional loops or developments will be made off from the Continental Divide Snowmobile Trail into big game winter ranges. If any additional loops or developments are made, they will be done outside of crucial big game winter ranges.

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such as is being done in the Little Mountain area if salinity loading, erosion, and riparian area improvement is to be realized.

Page 178 - Roads and trails causing erosion and water quality problems would be identified and rehabilitation plans would be developed and implemented. The WGFD supports this management action. What is the proposed time frame for this project?

- 74 Page 439 - Table 3-25 includes the miles of streams with improvement potential. We believe the miles of stream with improvement potential are grossly underestimated.

Aquatic Considerations:

We appreciate the opportunity to review and comment on this document as it has significant potential to affect the various and diverse fishery resources in the Green River Resource area. The increased emphasis placed on riparian condition throughout the plan is commendable and we fully support all proposed actions that lead to improvements in these areas.

- 75 Unfortunately the existing standard format for such plans limits the document's effectiveness for addressing concerns from a watershed or ecosystem perspective. More specifically, this format only allows analysis by fairly strict apportioning of the resource for various uses and attempts to describe potential impacts. Given the format constraints, the overall documentation of the preferred alternative (Volume 1) was good with the below listed exceptions. The discussion of environmental consequences (Volume 2) was weak from the standpoint of cumulative impacts of preferred alternative actions in relation to the potential to severely degrade watershed conditions even further.

Forestry Resource Management.

- 76 We agree with and strongly support the recommended 500' and 100' flood plain buffers for live-waters and ephemeral/intermittent streams respectively in most areas. In certain areas and situations, however, larger buffers may be appropriate. These are illustrated later in the text of these comments. In other areas, exceptions may be appropriate where it serves specifically identified benefits without placing fishery values at significant risk. Given the cost and uncertainty of effectively mitigating impacts that could result from possible exceptions to these limits, we strongly recommend against any exceptions to flood plain encroachment stipulations as promulgated in the preferred alternative (page 128). We agree with the use of silviculture treatments for improving watershed functions, and look forward to the cooperative planning of such with the Resource Area.

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Lands and Realty Management

We have reviewed the lands suggested for disposition and find no likely effects regarding the loss of access to important waters or fishery management opportunities. Lands suggested for acquisition would greatly improve fisheries management opportunities in the planning area.

- 77 We have particular interest in the future plans BLM has for obtaining lands presently administered by the Bureau of Reclamation (BOR). This is especially true of those lands that border the Green River and lower portion of the Big Sandy River. At the present time, most of the activities on these lands are managed for the BOR by BLM (e.g. grazing, minerals, etc.). Though these lands are specifically exempted from this plan (p.7) and are discussed infrequently in the document, management on these and adjacent lands can cause and have caused great impacts to the Big Sandy, Green River, and Flaming Gorge fishery resources. For this reason, we suggest that the document include a section that specifically addresses this situation and possible future actions.

- 78 We support the proposed rights-of-way (ROW) exclusions for the Big Sandy River and Currant Creek (Tri-State ACEC). Given existing conditions, the avoidance designations for ROW in Red Creek and Sage Creek drainages are realistic but not preferable to exclusions of future ROW (p.133-134).

- 79 Direct impacts of the massive revocations of Withdrawal Lands may be mitigated to a great extent for most streams, riparian areas and wetlands if protective measures and proposed management objectives are implemented. However, we are concerned the revocations could negatively affect watershed stability in some instances. Disturbances of upland soils in association with development of revoked Withdrawal Lands are a very real threat to fisheries resources through increased sedimentation, eutrophication, etc. In these areas, special protective measures may be appropriate. Such measures may include, though are not limited to, creating significantly larger buffers than mentioned above around riparian and wetland areas.

- 80 Given the highly developed ROW (transportation and pipelines) along Bitter Creek and the potential to further degrade this drainage, we do not support the revocation of any of the existing Public Water Reserves located on this stream. Any further development in and immediately adjacent to this system has significant potential to further increase the already high rate of erosion found here. Any such increases could subsequently degrade the lower Green River and Flaming Gorge fisheries. At the very least, those Public Water Reserves downstream of the Highway 191 crossing should be maintained to afford protection and possible enhancement of existing wetland and riparian values.

Livestock Grazing Management.

- 81 We agree with the management objective for this resource. However, we also have serious reservations that it can be realized at full preference

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- 16-70 Increased access into new areas due to road and pipeline development is a major problem and our analysis shows this could have a negative impact to wildlife populations, especially in regards to elk. Closing of some mineral development areas to hunting due to safety concerns could negatively impact recreation use of these areas. However, we still anticipate that overall recreation user days will increase due to the extent and variety of recreation opportunities available.

- 16-71 Wildlife and riparian conditions would benefit from the development of a green belt along the Green River. The green belt committee is interested in vegetative plantings that would provide additional wildlife habitat and stabilize the river bank. One of the major concepts of the green belt is provide a natural setting in which the public could view wildlife and enjoy the great outdoors. The Green River Resource Area manages a small amount of riverfront property. However, any developmental proposals would have to go through the National Environmental Policy Act (NEPA) process. Adverse impacts to the wildlife and riparian resources would be analyzed before a decision would be made.

- 16-72 Wild horse populations are determined by annual aerial census. These counts are conducted during January and February when there is a reasonable likelihood that the ground will be snow covered and all foals of the previous year have been born. Wild horses in the planning area typically inhabit open country with low vegetation. The animals are large, multi-colored, and are generally found in groups of two to as many as 40 animals. These factors make a total census of horses far more feasible than for many wildlife species being counted by the Wyoming Game and Fish Department. We attempt to conduct total counts of existing Herd Management Areas (HMAs) and areas outside of established HMAs known to contain horses or where horses have historically occurred, rather than using a statistical sampling method. A major effort is expended in flight time (both fixed and rotary winged aircraft) and workhours each year with experienced personnel.

The development of water would not be "specifically" for wild horses. See response to comment 11-1.

- 16-73 No time frame has been set. This will be done at the implementation stage on a site specific basis.

- 16-74 The data used for this table were the latest available stream survey work done in 1979. The figures used were from the Management Situation Analysis in the Green River Resource Area office. They represent only miles of stream on public lands with the highest potential for improvement (class A as rated in 1979). The total miles from the table in question represent about 50% of the stream miles classified. The table may have been more properly titled "Streams with Highest Potential for Improvement". In light of today's thinking on Proper Functioning Condition and Riparian Management, a large majority of the streams on public lands are in need of some improvement somewhere along their course. Documentation of this need is part of the Bureau's Riparian Initiative and is of top priority.

- 16-75 The format that we followed in the RMP does address concerns from a watershed perspective. Granted it does not specifically address ecosystem because at the time this plan was initiated there was no guidance on this subject and still isn't. We would agree that cumulative impact analysis may be weak, and will look at improving that section.

- 16-76 We agree. The 100-foot and 500-foot buffers are considered to be minimum standards. At times it may be appropriate to expand these areas where it is determined necessary through site specific analysis.

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trout and native fish habitats is strongly tied to potential improvements in degraded riparian conditions currently existing in these allotments. We would support realignment of existing allotment boundaries and changes in grazing management that would improve the function and then ecological potential of these allotments.

The Figure Four, Eighteen Mile and Lombard Allotments include portions of the Green River that are being managed as a trophy trout stream (Class 2). We support management actions that would improve range conditions and diminish sediment movement into the river. Riparian use to a great extent is limited for the latter two by the Seedskadee fences. However, livestock-related impacts are a continual problem on the refuge. We encourage the BLM to work with the Refuge in order to provide off-site water developments that eliminate this chronic problem.

- 85 The Rock Springs Allotment (13018) through which the lower 35 miles of the Green River flows, is listed as an "M" allotment with a low (30) management priority rating. There appears to be very little rest afforded to vegetation in this large allotment. Specifically, it is our understanding that wintering sheep are occasionally followed by (and sometimes overlapped with) spring, summer, and fall cattle use. Drought has no doubt been a factor over the last 5 years. But, the degraded range and riparian conditions in this allotment do not benefit the livestock operators, the stability of the watershed, or the Green River and Flaming Gorge fisheries.

We recognize the difficulty in managing lands in the checkerboard of ownership in this allotment. However, specific efforts are warranted to improve resource values here. We strongly urge the BLM to work with the RSGA and individual operators to begin improving the range and riparian condition in this allotment. This exchange should begin by classifying the Rock Springs Allotment as a higher management priority rating category than "M".

- 86 One specific comment regarding proposals on page 37 is that salt block should be placed further than 500 feet from riparian areas. Except in rare instances, a more appropriate distance is 1/4 mile.

Minerals Management.

- 87 With the revocation of Withdrawal lands, we support the protections afforded by the closing of coal exploration and sodium prospecting for (Preferred Alt.):
Big Sandy River Corridor (1/4 mile buffer)
All Flood plains
Currant Creek
North Fork Vermillion Creek

Given the degraded and naturally erosive condition of the Red Creek drainage, we recommend that it be added to the above list (Alternative C).

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At the very least, it should be afforded greater protective measures than limiting activities on slopes >25 percent.

- 88 Riparian, wetland and flood plain protections will help reduce impacts from upland developments if the habitats are in good to excellent condition. Other uses that degrade these types of habitats should be reduced or eliminated prior to surface disturbing activities involved with mineral prospecting and extraction. Otherwise, watershed conditions and related fishery values will degrade from cumulative disturbance impacts.

Sodium deposits directly adjacent to and below the Green River pose no concern given the depths at which it is mined. Surface operations do have the potential to cause significant water pollution and fishery impacts in the form of surface run-off from processing sites and discharges from evaporation ponds.

- 89 For fluids management, the Preferred Alternative appears to provide adequate protection to aquatic habitats through a combination of no leasing, NSO and seasonal restrictions. Even though this RMP makes no decisions for the Federal mineral estate it manages on lands administered by the BOR, we reiterate our position that we do not support any surface occupancy within 1/4 mile of the Green River.

Watershed/Soils Management.

- 90 We fully support the objective for watersheds and soil management, especially since stream channel stability ratings (page 438) show only 6% of area streams rated 2 or better and 76% rated 4 or worse. However, this objective appears unrealistic if: 1) livestock grazing increased from recent levels to full active grazing preference (page 518, paragraph 5); 2) soil disturbance activities associated with mineral exploration and extraction increased (page 515, paragraph 3), and 3) recreational impacts (page 515, paragraphs 9 & 11) increased. In other words, this plan infrequently addresses the great potential to cumulatively impact watersheds within the planning area.

- 91 To more effectively analyze the relative merits of this alternative, the document should include a discussion of relative trade-offs. This is important because it appears that further degradation of streams and watersheds could result in Clean Water Act violations.

- 92 We agree with the cautions regarding the undesirable consequences of poorly designed and constructed instream habitat structures (page 516, paragraph 1). However, this section seems to convey a blanket condemnation of this valuable restoration tool. In the past 3 years, we have successfully constructed 42 structures in Currant Creek. The techniques and processes used on these waters should not be characterized as haphazard. We recommend that this statement be amended to indicate: 1) the design of constructed structures are compatible with stream type as described by Rosgen, 2) structures should be designed as just one part of a watershed

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- 16-77 See response to comment 11-3. BLM is currently working with the Bureau of Reclamation for revocation of withdrawn lands in the Fontenelle Recreation area.

- 16-78 Thank you for your comment.

- 16-79 See response to comment 11-3.

- 16-80 A creek does not meet the criteria for a public water reserve (Public Water Reserve No. 107). A public water reserve must be located on a natural spring, water hole, or well. The reserves within the Green River Resource Area are being reviewed and an environmental assessment will be prepared prior to any recommendation as to the retention/termination of reserves. Wetlands and riparian areas are protected under other legislation.

- 16-81 We agree, and as a result, plan to include criteria based on functioning condition of riparian areas in the Final EIS that would guide grazing use.

- 16-82 The inability to meet riparian objectives is not always related to excessive soil erosion and poor range condition. Upland sites in an allotment may be in very good condition and still have situations where riparian objectives are not being met. Site specific management situations are contained in the Allotment Management Plans in the Resource area. One of the many problems in not reaching riparian objectives is directly related to livestock distribution. In other words, the allotment may be at the right stocking level but is not managed intensively enough to rest riparian areas.

- 16-83 The stated goal for Maintain category allotments is to preserve the satisfactory condition, management, and production potential. This goal covers all rangeland types including riparian. The Resource Area has areas that need immediate attention to stop deterioration of rangeland condition. The categorization process places emphasis on these areas, and others will be allowed to continue improvement on their own. If any of the factors change that may threaten the present condition of an M category allotment, it can be placed in the Improve category.

- 16-84 It is evident that the BLM is not going to meet the riparian initiative for the 1990s. The purpose of outlining a time frame for achieving proper functioning condition in riparian areas was to provide the public with a reasonable time frame for meeting this expectation. The time frame would begin at the completion of the RMP because we need to have decisions in place to implement our plan.

- 16-85 The allotments in the GRRA have been categorized so that the resource area can prioritize allotments that will be worked on based on funding and staffing. We appreciate your concerns, but an interdisciplinary staff participated in the process and we plan to continue with the current allotment categorization. The team's rationale for its placement into an M category: 1) Approximately 90% of the grazing occurs in winter and early spring and 2) Over 52% of the active preference in the allotment is in non-use.

- 16-86 The 500-foot spacing between salt blocks and riparian areas is a minimum distance. Spacings greater than 500 feet are encouraged when the topography allows it.

- 16-87 Thank you for your comment. Only small portions of the Red Creek drainage are within the coal lease area and that area would be closed to surface mining.

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improvement program wherever possible, 3) structures should be designed to enhance riparian function/condition, 4) the objectives of a project must properly address the limiting factors not just the symptoms, 5) all projects should include regular inspection and maintenance plans, and 6) instream habitat improvement projects should be evaluated as to whether project objectives were met.

Wildlife Management.

- 93 We agree that population information for native nongame fish species are inadequate. While this situation has hampered discussions regarding habitat requirements for these species, certainly the poor riparian and channel stability ratings for streams in the planning area are indicative of populations that are in trouble. Beginning in 1993, we will initiate a program to enumerate population size and current distribution of nongame fish throughout the planning area. We look forward to coordinating these actions to address BLM priorities.

In 1986, the North Fork Vermillion Creek drainage was listed by the former Rock Springs District Manager as a candidate stream for establishing Colorado River cutthroat trout. Since that time, population estimates of brook trout in the stream have declined dramatically. Obviously, habitat conditions have not improved to warrant establishment of native cutthroat trout in this drainage. We look forward to working with the BLM on watershed enhancements as planned in the ACEC that will allow future establishment.

A clear dichotomy exists between definitions for PFC and for riparian habitat (page 636). Regardless, PFC should be a first step towards reaching desired riparian conditions at or near ecological potential. Only then is it appropriate to "maintain biological diversity of plant and wildlife species" (page 182, last paragraph).

- 94 The "no net loss of wetlands" statement (page 184, paragraph 14) seems incompatible with the identification of 2,000 acres of riparian/wetland habitats that are suitable for coal development (page 655, paragraph 4). We recommend that this apparent conflict in objectives be clarified.

- 95 We look forward to working with the BLM in the continuing efforts to improve the Currant Creek drainage. The designation as an ACEC should benefit the completion of this important undertaking. We would suggest changing the management objective to IMPROVE the watershed and INCREASE the quality and quantity of Colorado River cutthroat trout habitat (page 195). This more accurately reflects the other actions planned by the BLM for the ACEC.

Regarding the Sage Creek management objectives (page 196), the objective should not be "maintain" but rather, "improve" watershed values. The existing values are degraded and maintenance would continue to impact fishery values. This is a special concern because a relic population of

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Mr. Rod Miller
February 18, 1993
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Colorado River cutthroat trout inhabits the upper headwaters of Trout Creek, a tributary to Sage Creek. Maintaining the status quo watershed values is undesirable because this action would limit potential extension of cutthroat downstream into historical waters.

- 96 We are very concerned that "over half of the inventoried streams indicate the potential to significantly improve stream stability through various practices" (page 438). Further, since 10 to 20 percent improvement potential delineates a key area for management improvement efforts, we conclude that, on average, the entire planning area could be considered a key area for improvement of stream channel stability.

- 97 Recreational expenditures for a variety of RMP sections appear to be too low. For instance, angling on the Green River alone produces direct expenditures of \$1,148,000 according to our estimates. Recreation days in 1984 were over 18,000. For 1992, we expect the estimates (based on intensive aerial surveys) to be over 24,000 days.

- 98 We are uncertain if the information in Table 3-14 includes all waters in the planning area or if the Green River is excluded from this list since Green River use is specifically discussed on page 396. The document should clarify this uncertainty and include more accurate information as appropriate.

In terms of affected environment, the Flaming Gorge fisheries would probably be most affected over the long term (page 419). This reservoir presently generates over 350,000 angling days and accounts for direct expenditures of over \$16,200,000 according to our data. Approximately 40% of the use is from anglers within the planning area. These two examples are more in line with those quoted in the September 1992 BLM publication: *Profile of Fish and Wildlife Resources Administered by Bureau of Land Management Wyoming*.

An accurate representation of the monetary value of fishery resources is an important part of this document as it does affect the magnitude and consequences of alternatives. We would be amenable to providing the Resource Area with a full tally of recreation days and expenditures for the entire planning area and encourage the BLM to contact fisheries personnel in our Green River district office.

- 99 Canoeing is not the largest single recreational activity on the Green River (page 396), as that distinction goes to fishing. This is but one example of a variety of minor corrections that we would like to make outside this formal comment medium. We would appreciate the opportunity to meet with resource specialists in the near future to discuss these less substantive fisheries "concerns". Contact should be made with Mr. Mark Fowden, Area Fisheries Supervisor in Green River.

Comment Responses

- 16-88 We agree. Riparian areas, wetlands, and floodplains need to be protected to the greatest degree possible. Thank you for your comment.

- 16-89 Thank you for your comment.

- 16-90 The exact nature of future activities within the Green River Resource Area can not be accurately predicted. Preventive and mitigation measures will be addressed in site specific environmental documents. The process of creating these documents includes consideration of cumulative impacts.

- 16-91 The alternatives are themselves considered tradeoffs. There are tradeoffs with resources inside the alternatives. Following the rules and regulations of the Clean Water Act is required in all actions. The final document was revised to include guidelines for grazing use on riparian areas that is tied into proper functioning condition (see Glossary).

- 16-92 Instream structures can be a valuable tool in restoration but they are expensive and can also cause a great deal of damage, if not properly installed. The RMP will be modified to more clearly state this position. The design and placement of all instream structures will be reviewed prior to their installation.

- 16-93 There can be differences between Proper Functioning Condition (PFC) and Potential Natural (Plant) Community (PNC) or Desired Plant Community (DPC) depending on the site in question. We feel that Proper Functioning Condition (in most cases) is the minimal standard by which all public land riparian areas should be judged as ultimately acceptable. It must be understood that Proper Functioning Condition is not necessarily Potential Natural Community or even Desired Plant Community. We agree that riparian area conditions are a primary factor affecting fisheries habitat and populations.

- 16-94 The suitability screening process only makes these areas available for consideration. No net loss does not mean "no loss", and mitigation measures to avoid or replace would probably be in effect in any plan. "Natural" or pre-existing features would in all likelihood not be recovered (i.e., springs, seeps, and other features tied to ground water) if allowed to be removed. The Corps of Engineers would be consulted during the normal planning and permitting process.

- 16-95 We agree with changing the Currant Creek part to "Improve" and "Increase" since that is what we are already doing and the HMP states things this way. In addition, the Sage Creek objective should read "improve and maintain watershed values."

- 16-96 Climate and past practices combined have produced a significant amount of stream degradation throughout the resource area. Stream channel improvement is an ongoing project within the resource area.

- 16-97 You are correct; recreation expenditures published in the RMP Draft EIS are low. Of all economic sectors, recreation is the most difficult to accurately measure or record. Often, recreation expenditures and revenues are included in the larger "buckets" of "travel and tourism" or "services." We are aware of no economic studies that separate out-of-state tourism expenditures/revenues into subcategories of recreation types; and then further separate numbers to in-state (Wyoming residents) recreation activity versus out-of-state recreation activity. Recreation use data from the Wyoming Game and Fish Department and the U.S. Forest Service Flaming Gorge National Recreation Area have been included in the analysis and are in this Final EIS. See also response to comment 16-98.

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Mr. Rod Miller
February 18, 1993
Page 24 - EIS 7007

Thank you for the opportunity to comment.

Sincerely,

JOE WHITE
DEPUTY DIRECTOR

JW:TC:as

cc: Game Division
Fish Division
HATS Division
USFWS

Comment Responses

16-98 The information included on Table 3-14 includes all waters in the planning area. For this plan we used 1990 figures for recreation user days and expenditures to be consistent throughout the document. The BLM-Green River Resource Area manages only 3,200 acres along the Green River, causing discrepancies with the Wyoming Game & Fish Department "fishing use days and direct expenditures" figures. We do not disagree with these figures for the entire Green River and the Flaming Gorge National Recreation Area. Recreation use data from the Wyoming Game and Fish Department and the U.S. Forest Service Flaming Gorge National Recreation Area have been included in the analysis and are in this Final EIS. We appreciate the offer to consult with members of the fisheries staff for future planning efforts.

16-99 We will make the correction that fishing is the largest single recreational activity on the Green River, replacing canoeing. This was a subjective observation that should have been researched more thoroughly. Thank you for the information.

17-1 See response to comment 12-2.

17-2 Thank you for pointing out the error in estimating the average annual production rate of gas and oil. Table 4-11 has been updated and the new estimate of this average annual production rate has been included.

Table 4-11 and Appendix 7-5 show different numbers of producing wells because different data bases were used to prepare each table. Appendix 7-5 was derived from "The Wyoming Oil and Gas Conservation Commission 1989 Statistical Summaries." This information is reported by field and includes some fields with wells lying partially outside the Resource Area. Also, the Commission only reported wells that produced in 1989 and did not include shut-in or temporarily abandoned wells. This appendix was used only to show the number of producing fields, cumulative production, and to derive average annual oil and gas production rates per well.

Well numbers in Table 4-11 and all other tables using well numbers were derived from Petroleum Information's data base. Petroleum Information only keeps a record of a well's status on completion and does not determine when a producing well is abandoned. Oil wells have approximately a 50-year life span and gas wells produce for about 20 years. This assumption was used in these tables to drop all oil wells greater than 50 years old and all gas wells older than 20 years from production status. These tables thus approximate the total wells in Appendix 7-5 but do not exactly match them.

17-3 It is not the intent of the BLM to use ACEC designation, or National Register of Historic Places (NRHP) designation to "buffer" wilderness study areas. ACECs are areas that require special management attention to protect important and relevant values. Where historical values warrant NRHP designa-

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THE GEOLOGICAL SURVEY OF WYOMING
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STATE GEOLOGIST - Gary B. Glass

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January 29, 1993

MEMORANDUM -

TO: Rod Miller, Wyoming State Clearing House
FROM: Gary B. Glass, State Geologist *GSG*
SUBJECT: Green River Resource Area RMP and Draft EIS
(State Identifier # 88-064)

We have reviewed the documents listed above and submit the following comments:

- Our greatest concern is that these documents seem to ignore the significant natural gas developments that are already occurring in southwestern Wyoming. Shut-in wells are being opened, major infill-drilling projects are underway, and the Kern River Pipeline is on-line and soliciting even more gas supplies. With all this activity, it seems unlikely that demand for natural gas on Federal lands in this area will remain level, decline, or increase only slightly as indicated on the scenarios in Table 4-11 on page 473. We believe demand for natural gas from the entire Greater Green River Basin will increase substantially in the next decade and longer. This would include the Green River Resource Area.
- We are also concerned that there are significant errors in Table 4-11 (p. 473). Since most gas wells in this area are completed with initial potentials greater than 1,000 MCF/day, how can an average well only produce 14,975 MCF of gas annually (see footnote 2 at the bottom of Table 4-11)? Data in Appendix 7-5 (p. 737-746) contradicts this assumption by showing that an average well produces 156,122 MCF/year or about 10 times what Table 4-11 shows. Similarly, oil production averages closer to 5,000 barrels/year than the 398 barrels indicated in footnote 1 to Table 4-11. The bottom line is that there are not only a number of errors in their assumptions for the average production rates of oil and gas, but Table 4-11 shows more wells in 1989 than the more inclusive Appendix 7-5.
- We are concerned that ACECs and now "historic landscape" designations are being used to create even larger buffer zones around Wilderness Study Areas (WSAs). A good example is the Oregon Buttes ACEC and the South Pass "historic landscape" designations. These two designations, which are contiguous with the Whitehorse Creek, Oregon Buttes, and Honeycomb Buttes Wilderness study areas, more than double the size of the WSAs and add enough restrictions that traditional usages of these

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Rod Miller/88-064
January 29, 1993
Page 2

lands are changed. See Map 3 (p. 15) and Map 37 (p. 235) for clarification of the proximity of these lands.

- 4 We are concerned that the discussion of Locatable Minerals (p. 390-392) leaves the impression that because there are no active mines in the area, there are no commercially valuable locatable minerals. This is not the case. There are commercially valuable mineral deposits, but they are not yet in the production stage for a variety of reasons, including decisions by the BLM itself.

As an example, the oil shale withdrawal in this region (p. 390) is clearly thwarting the development of zeolites. Although asked to remove or lift the withdrawal (p. 392), BLM has still not indicated what or when they will do anything in this regard.

This section also fails to mention the interest that Kennecott, Superior Minerals, Amelco, and other companies have shown in the potential for diamond occurrences in this Resource Area. Several millions of dollars have already been spent on diamond exploration, and there will be more because the rock type at Leucite Hills is the same rock type that is diamondiferous in the Kimberly region of Western Australia.

There are other valuable gemstones in this area besides jade. Gem quality peridot, garnets, and chromian diopsides are present. Alunite also occurs in the Resource Area.

Gold occurrences are not restricted to Oregon Buttes and South Pass. Recent work has shown anomalous gold values in some coal and oil shale in the Green River Basin. And there are anomalous gold values at Quaking Asp Mountain. Again, a lot of dollars have been and will be spent on exploration for this metal.

- 5 It is also noted that "Precambrian" is misspelled throughout the section on Resource Potential (p. 392). The spelling of Precambrian was changed many years ago, and it is spelled correctly in other sections.

- 6 On page 389, it should be noted that trona was discovered in 1949, not 1939.

- 7 Map 64 on page 391 does not include existing claims in Sec. 20, T18N, R103W and probably others as well.

On page 393, we note that the sand and gravel map was adapted from our Map Series 21 without any credit given.

- 8 On pages 372-379, we note that the geologic nomenclature is often incorrect. Many of the formation names are from the Thrust Belt of westernmost Wyoming and are not used in the Green River Basin. We suggest the authors consult Geological Survey of Wyoming Open File Report 92-2 to correct this section of the report. The Deardorff (1963) reference for Figure 11 is very much outdated. Again Open File Report 92-2 would clarify relationships. A copy of our Open File is attached.

On pages 393-394, we note that the section on geologic hazards is also outdated. We have attached some recent landslide maps and earthquake/fault maps that will be useful in updating this section.

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January 29, 1993
Page 3

- 9 On page 394, we disagree that the Leucite Hills and Boar's Tusk areas are potentially active volcanic hazards. Even though the features are relatively young, there is no evidence of continuing volcanic activity and no evidence of associated seismic activity.

- 10 In the way of a final comment, we are concerned that we are listed on page 619 as having been consulted in regard to the preparation of these three volumes. We want it made clear that we were not "consulted" on the sections on geology and mineral resources or any other section for that matter.

GBG/sb

Enclosures

Comment Responses

tion, as in the case of the South Pass Historic Landscape, the BLM is required to manage these resources accordingly. The RMP provides management prescriptions that allow for multiple use and flexibility while protecting unique resources found in the areas recommended for ACEC or NRHP designation. In addition, wilderness recommendations have been submitted to Congress. All WSAs must be managed to protect their wilderness values until Congressional action is taken.

- 17-4 It was very difficult to identify the potential for locatables in the Draft EIS. Since publication of the draft we have identified diamonds as a locatable mineral. There may be potential for other locatable minerals in the resource area; however we are unaware of activity related to commercial development which would affect our planning. See response to comment 11-3.

- 17-5 Thank you for your comment.

- 17-6 Trona was identified from core samples obtained from oil and gas test wells drilled in 1938, and Westvaco (FMC) began sinking a shaft to mine the trona ore in 1946.

- 17-7 Map 64 was constructed in 1989, while the claims in this township were located in March/April of 1990. The mining claims in 1994 may also be different, especially with changes due to the Appropriations Act of 1992. Mining claims change so rapidly that any such map in the RMP will probably be out-of-date by the time of publishing. Only a small part of the data in Map 65 was drawn from WGS Map Series 21 (much more was taken from Bastron, 1965 and other sources). But your comment was correct in pointing out the need to give proper credit. This deficiency is now corrected and the sources are listed in the reference section.

- 17-8 Thank you for the copy of the Open File Report. This report was not available in 1990, when this section was originally written. This portion of the RMP EIS is not reprinted in the final document, but will be available as part of the supporting baseline documentation.

We also thank you for the updated information on geologic hazards. Again, this information is not repeated in the final document, but will be placed in the supporting documentation.


- 17-9 Our reference for this is Hays, W.W. (Editor) 1981, "Facing Geologic and Hydrologic Hazards," U.S. Geological Survey Professional Paper 1240-B, p. 89" which showed this area as a potential volcanic hazard. We have corrected this to show no hazard exists based on consultation with Jim Case of your staff.

- 17-10 By letter, dated March 7, 1990, we asked for information on resource data and development activities. We received a brief response, dated April 12, 1990.

Comment Responses

17-11 See response to comment 17-2.

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STATE GEOLOGIST - Gary B. Glass

88-064

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December 8, 1992

-- MEMORANDUM --

TO: Rod S. Miller, Federal Lands Planning Coordinator

FROM: Gary B. Glass, State Geologist *GBG*

SUBJECT: Green River RMP (State Identifier # 88-064)

DEC 9 1992

11 We have reviewed the natural gas discussions in the documents you sent us. While we did not see any specific discussions of reserves, we did see some obvious errors in the production forecasts they presented. BLM states on Table 4-11 (page 473) that an average gas well produces only 14,975 MCF of gas annually. Since most gas wells in this area are completed with initial potentials greater than 1,000 MCF/day, wells in BLM's tables would be considered dry holes. Their own data for 1989 production (Appendix 7-5, p. 737-746) shows an average well produces 156,122 MCF/year or about 10 times what BLM has stated. A typical well in the Wamsutter area completed in the Almond Formation has gas reserves of about 3,000,000 MCF. The bottom line is that there are a number of significant errors in their assumptions for the average production rates of individual wells as well as even the number of wells already drilled (one place shows 1,115 wells in 1989, another shows 1,712 wells for the same year).

While we have not completed our review of this RMP, we are advising you that reserves based on the erroneous production forecasts could be off by a factor of 10 or more. We have not attempted to recalculate their tables because of the many discrepancies already noted.

Please advise us of any scheduled meetings so that we might be in on the discussions.

GBG:eb

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Oil and Gas Conservation Commission

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STATE OIL AND GAS SUPERVISOR
DONALD B. SARGO

DEC 31 1992

December 30, 1992

Mr. Rod Miller
Federal Lands Planning Coordinator
Office of the Governor
State Capitol Building
Cheyenne, WY 82002

RE: Green River Resource Area Resource Management
Plan and Draft Environmental Impact Statement

Dear Mr. Miller:

1 I am in receipt of a copy of the above noted R.M.P. and Environmental Impact Statement. I have reviewed the documents and have several comments that need to be addressed.

Southwest Wyoming has become a very significant "gas hub" because of the numerous major gas pipelines that either originate in that part of our state or cross through the area. That means that gas supply can be shipped in almost any direction. The area is also in the center of what some people refer to as the "Bull's Eye" of gas supply. The "Bull's Eye," or the Green River Basin, is in close proximity to other producing areas in Utah, Colorado, and the other basins of Wyoming. It is therefore one of the critical gas supply areas for the entire country.

The Green River Basin resources are tremendous in magnitude. A publication entitled "Potential Supply of Natural Gas in the United States" dated December 31, 1990, by the Potential Gas Committee at the Colorado School of Mines, estimates gas resources in three categories. These categories are probable, possible, and speculative above 15,000 feet and below 15,000 feet. If you use the maximum of all three categories the total is 72.3 T.C.F. for the greater Green River Basin. Either way, the Green River area has tremendous gas reserve. A copy of the applicable pages of that publication are attached.

In a study done by Barlow and Haun, consulting geologists, for the Wyoming Natural Gas Pipeline Authority, gas resources for the entire State were estimated at 130 T.C.F. This figure is consistent with the Potential Gas Committee's Report. Obviously the majority of these resources are in Southwest Wyoming's Green River Basin.

The Barlow and Haun Report mentioned above reflects that Wyoming had a total natural gas resource of 144.5 T.C.F.; ten percent of which has been produced. They further point out that at current production rates, the supply will last for 167 years. This scenario is true only if development drilling is allowed to proceed in an orderly fashion without undo delays in permitting. I have serious

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18-1 See responses to comment 17-2 and comment 63-1.

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Mr. Rod Miller
December 30, 1992
page 2

1 doubts about the areas identified by the Bureau of Land Management; which establishes three categories, of high, moderate, and low potential. From our experience we can only condemn a property if a well has been drilled and adequately tests all potential zones before plugging and abandonment.

Cont'd

On page 385 of the Bureau of Land Management document, the statement is made that the Kern River Project is being constructed. That project is now complete, shipping 700 MCF/D of which approximately 575 MCF/D is Wyoming gas, almost all from the Southwest corner of Wyoming.

On page 473 there is a Table 4-11, entitled "Oil and Gas Projected Production Rates 1989-2010 Green River Resource Area." The production rates seem to be abnormally low. Our actual yearly production, number of wells, and permits to drill are as follows:

Year	Permits	Wells	Oil Production BBS	Gas Production MCF
1989	113	1,078	7,289,135	161,265,166
1990	115	1,123	8,977,924	174,442,546
1991	104	1,207	8,388,620	200,756,540
1992	206	N/A	N/A	N/A

These figures are for all of Sweetwater County and are not limited to the resource area. From the Wyoming Oil and Gas Conservation Commission county production figures, it is obvious that gas production is increasing from the Green River Resource Area and will continue to do so. However, the resource area covers three-quarters of the county and encompasses the most productive areas. The actual and projected production figures are all on the low side by a factor of 8 to 12. In addition, there is a bust in Alternative B, - Gas Production, Year 2001, which is three times the figures on either side.

As part of the work of the Wyoming Natural Gas Pipeline Authority, we conducted a poll of operators attitudes about exploration in the Green River Basin. I have attached a copy of the results of that inquiry for your information. What is significant is the fact that the Green River Resource Area is now one of the hottest development spots in the United States. Of the fifty-nine rigs running in the state this week, approximately forty-five are in Southwest Wyoming. This is also reflected in the significant increase in Applications for Permit to Drill which show an increase from 104 in 1991 to 206 in 1992. Admittedly, some of that activity is prompted by the Section 29 Tax Credit, but obligations to ship gas on Kern River also weigh heavily.

According to the American Gas Association "1992 Gas Facts" handbook, Wyoming produced 827,132,000 MCF in 1990. This makes us the fifth largest gas producing state in the nation. Of the above amount, only 45,715,000 MCF was used in-state. The remaining was exported to consuming states. The vast majority of the 827 BCF came from Southwest Wyoming, particularly Sweetwater, Uinta, Lincoln, Sublette,

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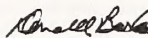
Mr. Rod Miller
December 30, 1992
page 3

1 Carbon, and Fremont Counties. The Green River Resource Area is the heart of this gas producing province.

Cont'd

In conclusion, I strongly recommend that operators be allowed to continue to develop the gas resources of the Green River Basin. The Bureau of Land Management needs to recognize the importance of this area as a "gas hub" providing gas to the nation. Restrictions on drilling must be limited to the bare minimum. All these things must happen consistent with the new administration in Washington as an advocate of natural gas and energy independence. That cannot happen without development. I have also attached a map of the Green River Resource Areas superimposed on an oil and gas field map that shows the extent of development that has already taken place.

Very truly yours,



Donald B. Basko,
State Oil and Gas Supervisor

D88/d1

19



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REAL ESTATE DIVISION

TO: Rod Miller, State Planning Coordinator's Office

FROM: *PC* Paul Cleary, Deputy Director

DATE: February 24, 1993

SUBJECT: Green River Resource Area Draft Resource Management Plan

1 I have reviewed the subject document with particular focus on the preferred alternative and its potential effects on state trust lands. These lands were granted for the support of the state's educational system and various public institutions. The primary duty of this office and the Board of Land Commissioners is to manage, lease, and dispose state trust lands to generate the greatest possible economic benefit for the common schools and other beneficiary institutions.

Our main concern is the potential constraint on our ability to meet our trust obligations on state land parcels incorporated within or otherwise affected by the various BLM special management areas. These include the current and proposed Areas of Critical Environmental Concern, the Wilderness Study Areas, the potential Sweetwater River Wild and Scenic River corridor, the BLM surface/state subsurface coal leasing areas, and other no surface occupancy or no surface disturbance areas.

The proposed management prescriptions for these areas are designed to protect certain significant values and resources located on BLM lands. It is represented that the proposed RMP decisions and prescriptions only cover BLM lands. However, one glance at land ownership patterns in the special management areas reveals obvious repercussions on intermingled or adjacent state and private lands. For example, BLM decisions to withdraw their lands from mineral leasing, to prohibit surface occupancy, to close roads, or to prohibit new rights-of-way can make intermingled state lands and minerals unleaseable or undevelopable from physical and economic standpoints.

1800 - "One Hundred Years of Serving the State Land Trust" - 1990 -

Comment Responses

19-1 The GRRA has identified State Lands within ACECs, WSAs, and Special Management Areas for potential to exchange or purchase because of this concern. We believe that the State is in the position to identify which of its lands may be adversely affected by BLM management of adjacent federal lands. Once identified to us, sales or exchanges may then be investigated on a case-by-case basis.

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Cont'd

1 We have witnessed this situation on state land inholdings in the Jackson Canyon ACEC near Casper. We want to avoid similar situations in the Green River Resource Area. As such, we ask that the final Green River RMP identify as "proposed acquisitions" all the state land parcels that may be adversely affected by BLM special management area designations or prescriptions. The final plan should establish a timetable and budget for these BLM acquisitions of state trust lands. The plan should also describe and analyze various acquisition methods, including land exchange, direct purchase, and third party (e.g., Nature Conservancy) approaches. Our experience with state-federal land exchanges has caused us to question both the cost and time-effectiveness of land exchanges. As such, we would strongly encourage a detailed examination of direct purchase and third party approaches for the proposed state land acquisitions.

MEMORANDUM

TO: MR. ROD S. MILLER
 FEDERAL LANDS COORDINATOR
 STATE PLANNING COORDINATOR'S OFFICE
 FROM: JON F. JACQUOT
 CHIEF ENGINEER
 PUBLIC SERVICE COMMISSION
 DATE: FEBRUARY 19, 1993
 RE: BUREAU OF LAND MANAGEMENT, GREEN RIVER RESOURCE
 AREA RESOURCE MANAGEMENT PLAN AND DRAFT
 ENVIRONMENTAL IMPACT STATEMENT - STATE
 IDENTIFICATION NO. #88-064

Thank you for the opportunity to comment on the referenced matter. The Commission requests that no unreasonable restrictions be placed on the provision of utility service or on the construction of utility and pipeline facilities as a result of the development or implementation of the referenced plan.

1 The Commission would prefer that the Bureau of Land Management avoid mandatory undergrounding of electrical utility facilities as a management objective. The cost of constructing, operating and maintaining underground lines is generally higher than the cost of comparable overhead facilities and the reliability is not as good. The Commission's general policy is that those who cause the higher costs of undergrounding electrical lines should pay the difference. If the additional costs are not borne by those who cause them, the

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ratepayers of the affected utility would be unfairly discriminated against when burdened with paying the additional costs.

2 The Commission requests that, when coal leasing is being done, the costs of relocating any utility and pipeline facilities to accommodate coal production be borne by the lessee. If these costs are not borne by the lessee, those costs would fall unfairly on the ratepayers of the affected utility or pipeline.

3 The Commission requests that, in cases involving oil and gas leasing, the Bureau of Land Management not restrict the construction of utility and pipeline facilities necessary for the exploration and production of oil and gas.

4 The Commission requests that, when the Bureau of Land Management sells or exchanges lands, the rights of the utilities and pipeline operators holding right-of-way easements from the private land owner and right-of-way grants from the Bureau of Land Management be protected. The Commission suggests that the private land owners acquiring Bureau of Land Management lands give new right-of-way easements to the utilities and pipeline operators for their existing facilities, and that, when the Bureau of Land Management acquires private lands, it issue new right-of-way grants to the utilities and pipeline operators for their existing facilities.

5 Where construction is undertaken, the Bureau of Land Management or those managing the construction should contact and coordinate with the utilities and pipeline operators serving and otherwise present in the area to prevent contact with and damage to utility and pipeline facilities. If it becomes necessary for utility or pipeline facilities to be modified or relocated, the cost of modifying or relocating any utility and pipeline facilities to accommodate construction, should be borne by the Bureau of Land Management or those benefitting from the construction. If these costs are not borne by the Bureau of Land Management or those benefitting from the construction, those costs would fall unfairly on the ratepayers of the affected utility or pipeline.

If you should have any questions regarding this matter, please let me know.

mj

Comment Responses

20-1 There is no BLM policy requiring the mandatory undergrounding of electrical utility facilities.

20-2 The cost of relocating utility lines to accommodate mineral extraction or construction is **not** borne by the holder having the prior right (first in time, first in right). If a powerline right-of-way pre-dates a coal lease, the coal lessee pays for relocating the powerline. See page 652 of the RMP Draft EIS, Step 2, Application of Coal Unsuitability Criteria, Criterion Number 2.

20-3 Environmental assessments are prepared for the majority of rights-of-way to determine the level of protection required to protect resource values. Companies are given the opportunity to plan their projects in a manner which will offer this protection without the addition of stipulations to their grant by the BLM.

20-4 Right-of-way holders are notified prior to the sale or exchange of lands and such disposals are subject to valid existing rights. It has been the policy of BLM to change the term of major utility grants to an indefinite period. This protects the utility companies from the possibly untimely necessity of negotiating easements with the new landowner which might not be in the public interest. Both parties have the opportunity to protest the disposal action if they believe such an action would impact them adversely.

20-5 The holder of the right-of-way coordinates with the owners of utilities being crossed during their construction as the BLM cannot accept such liability. Contractors are aware of the necessity to "Call Before You Dig" - a free service offered by all utility companies. See response to comment 20-2.

21

MIKE SULLIVAN
GOVERNOR

THE STATE OF WYOMING

GORDON W. FASSETT
STATE ENGINEER

State Engineer's Office

HERSCHLER BUILDING, 4E
(307) 777-7354CHEYENNE, WYOMING 82002-0370
FAX (307) 777-5451

February 25, 1993

Rod Miller
State Planning Coordinator's Office
Herschler Building, 4E
Cheyenne, WY 82002Re: BLM Green River RMP
SPC ID# 88-064

Dear Rod:

1 The State Engineer's Office has reviewed the BLM Green River Resource Area Resource Management Plan, and in general it appears to be quite thorough. We would like to remind the BLM that any activity on BLM lands that requires the use of groundwater, diversion of surface flows, surface water impoundments, or spring development needs to be permitted by this agency. Any coal bed methane drilling activities also require a permit from the groundwater division of this office.

2 We appreciate the past involvement of the BLM in the Recovery Implementation Program for Endangered Fish Species in the Upper Colorado River basin. This is a cooperative program between the upper basin states and the U.S. Fish and Wildlife Service which allows for payment to be made based upon water depletion amounts to satisfy requirements under the Endangered Species Act. Depletion fees have been made for several developments on BLM lands and we look forward to continued cooperation with the BLM in this program. As Wyoming is a partner in this program, we would appreciate the BLM alerting our office to any direct participation they may have with the Fish and Wildlife Service in the Fish Recovery Program.

The BLM has identified a portion of the Sweetwater River as being eligible and suitable for inclusion in the Wild and Scenic Rivers Act. We would appreciate the BLM keeping our office informed of any future activity in recommending this river for

Comment Responses

- 21-1 The resource area will comply with the State Engineer's Permitting process.
- 21-2 Thank you. You will be informed when we consult with USFWS on Colorado River Endangered Fish program topics. We will also keep you up to date on Wild and Scenic River Designations.

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Green River RMP
February 25, 1993
Page 2

designation by Congress.

If you have any questions, don't hesitate to contact me.

Sincerely,

Sue Lowry
Interstate Streams Engineercc: Jeff Fassett
Richard Stockdale
John Shields
John Barnes

Wyoming State Legislature

213 State Capitol / Cheyenne, Wyoming 82002 / Telephone 307 / 777-7881

22



House of Representatives
REPRESENTATIVE RAY SARCLETTI
House District 17 - Sweetwater County
620 "B" Street
Rock Springs, Wyoming 82901
Committee:
Labor, Health & Social Services

April 8, 1993

Mr. Bill LeBarron
Bureau of Land Management
Green River Resources Area
1993 Dewar Drive
Rock Springs, Wyoming 82901

Dear Bill:

I really appreciate the fact that you have extended the comment period regarding the 20-year plan for the Green River Resource Management Plan.

1 I feel that it is imperative that the plan recognize the potential growth of natural gas exploration and production in the region due to increased demand in the California markets. The additional revenues generated are so important to the State of Wyoming, especially in terms of maintaining quality education and services to our citizens.

I also want to thank you and your staff for taking the time to explain the plan to our legislative delegation this past January prior to session.

Sincerely,

Ray Sarcletti

RAS/bds

Comment Responses

22-1 See response to comment 63-1.

Wyoming State Legislature

213 State Capitol / Cheyenne, Wyoming 82002 / Telephone 307 / 777-7881

23

April 22, 1993



House of Representatives
REPRESENTATIVE CLYD BÉBOUT
Minority Whip
House District 55 - Fremont County
P.O. Box 112
Riverton, Wyoming 82501
Committee:
Appropriations
Rules and Procedure

Mr. Bill LeBarron
Bureau of Land Management
Rock Springs District Office
P.O. Box 1869
Rock Springs, WY 82902

Dear Bill:

I am writing this letter in support of Wyoming's natural gas industry. Several reasons for my support are listed below.

- 1) Natural gas markets will continue to expand and national policy priorities emphasize the growth of this environmentally clean, efficient, and abundant resource.
- 2) Wyoming's tenuous and unstable state government revenue picture can be healthy if natural gas production, and revenues, are allowed to increase.
- 3) Natural gas markets continue to grow and develop, and to access these markets, Wyoming has to have pipeline transmission capacity, which now has been achieved with the completion of the Kern River pipeline.
- 4) Wyoming has vast natural gas reserves, with an estimated production life of 167 years at current production rates.

Your Resource Management Plan affects some 60 percent of the land area in the greater Green River Basin. The plan, in and of itself, therefore can influence resource use--including natural gas development.

I also support Alternative B being that it appears to be the least restrictive of the four alternatives under consideration. I would recommend the following:

- 1) Rework Alternative B using a production scenario equal to a 250% increase in natural gas production. The revision of this alternative should assume this new production level and reexamine mitigation factors.
- 2) Increase projected natural gas numbers to reflect an increase of 250% over the next 20 years.

We must realize that along with our State's economic diversification the development of our state's mineral resources is equally important.

Please feel free to contact me if I can be of any further assistance in this matter.

Sincerely,

Clyd D. Bébout

23-1 See response to comment 63-1.

24

DEPARTMENT OF STAFF RESOURCES
& TECHNICAL SERVICESSWEETWATER
C-O-U-N-T-Y

- ☐ Robert L. Gaudin
Executive Director
- ☐ PLANNING DIVISION
60 W. Flamingo Overpass Way
Green River, WY 82935
(307) 875-7622 / 882-8396
FAX (307) 875-8439
- Mark H. Kist, AICP
County Planner
- Barbara Tucker
Information Specialist / Secretary
- ☐ ZONING DIVISION
80 West Flamingo Overpass Way
Green River, WY 82935
(307) 875-8611, Ext. 270
(307) 365-7876, Ext. 270
FAX (307) 875-8439
- Gregory H. Robinson
Zoning Coordinator
- Margo Melton
Zoning Secretary
- ☐ HUMAN RESOURCES DIV.
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FAX (307) 875-8439
- Robert D. Williams, RD
HR Spm. / P&Z Secretary
- ☐ ENGINEERING DIVISION
P.O. Box 1347
Green River, WY 82935
(307) 875-8802 / 365-1769
FAX (307) 875-8439
- John T. Nelson, P.E.
County Engineer
- W. Wayne Ogdell, R.L.S.
County Surveyor
- Phil Treacy
Staff Engineer
- Chuck E. Radnorovich
Staff Engineer
- Isabella Fisher
Computer Mapper
- Mal Morris
Engineering Secretary

BOARD OF SWEETWATER
COUNTY COMMISSIONERS
Phil Radnorovich, Board Chair
Linda M. Taliaferro, Commissioner
Larry O'Brien, Commissioner

February 11, 1993

Ms. Renee Dana
Bureau of Land Management
P. O. Box 1869
Rock Springs, WY 82901

Dear Ms. Dana:

Thank you for the opportunity to comment on the Draft Resource Management Plan Environmental Impact Statement for the Green River Resource Area. I would appreciate your consideration of the following comments in your review:

**PROTECTING ECONOMIC BASE OF
SWEETWATER COUNTY**

1. Because BLM lands comprise approximately 60% of Sweetwater County and because the economic base of our county strongly depends upon the natural resources produced on these lands, the Sweetwater County Commission would like the RMP to include a statement making one of the overall goals of the RMP to protect and maintain the economic base of Sweetwater County.

**COAL, OIL AND GAS LEASING WITHIN URBANIZING
AREAS - REQUEST FOR CASE BY CASE REVIEW**

2. Sweetwater County wants to encourage resource development and wants to do so in a manner that is compatible with both the natural and manmade environments. Because of this philosophy, the Sweetwater County Commission would like the BLM to consider reviewing coal and oil and gas leasing within the urbanizing areas adjacent to the cities of Rock Springs and Green River on a case by case basis (see attached map). The Commission believes the case by case review in this area would allow more opportunity for public input on coal and oil and gas development, thus reducing the potential for conflict between urban and mineral users.

**OPEN FEDERAL LANDS AT I-80 INTERCHANGES TO
DEVELOPMENT**

3. The Sweetwater County Commission would like the BLM to consider opening some Federal lands at I-80 interchanges to public development, especially in the vicinity of the cities of Rock Springs and Green River.

**Comment Responses**

24-1 Setting a goal in the RMP to protect and maintain the economic base of Sweetwater County is not within the Bureau's planning framework. This plan does provide for the use and orderly development of resources. This plan only pertains to federal lands and we do not control all the economic factors associated with development.

24-2 Decisions in the RMP would open acreage previously closed to oil and gas leasing with further consultation with the Sweetwater County Commission.

24-3 We are deleting the reference to closing the I-80 interchanges to disposal. Disposal will be considered on a case-by-case basis requiring an environmental assessment and plan amendment.

Letter to: Renee Dana
From: Sweetwater County Commission

-2-

2/11/93

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RECREATIONAL TRAILS AND ROADS

The BLM's RMP indicates there will be an increase in the development of recreational roads and trails. Sweetwater County encourages this development; however, the County Commission would like the RMP to insure that, where these transportation systems tie into county or other road networks, the necessary arrangements for access and maintenance are made before development.

The Sweetwater County Commission would like to thank the Green River Resource Area for the opportunity to comment and we look forward to a continued strong working relationship with the Bureau of Land Management.

Sincerely,

Linda M. Taliaferro
Linda M. Taliaferro, Chairman
Sweetwater County Commission

LMT/MK/bt

cc: John T. Nelson
Bob Clordon
Planning and Zoning Commission
Gene Kinch, BLM

24-4 The Green River Resource Area plans to work on designating some of roads in the Resource Area as Back Country Byways. Some of these are county roads. The BLM's goal for Back Country Byways is to meet demands for pleasure driving, to facilitate partnerships, to contribute to the local economy, increase awareness of public lands, enhance recreational experiences, increase the visibility of the BLM, manage increased use with minimum impacts, and contribute to the national scenic byways effort. We will need to work closely with the county commission, state government, other federal agencies, and private landowners to see these byways come into fruition.

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City of Kemmerer



April 19, 1993

Mr. Bill LeBarron
Bureau of Land Management
Rock Springs District Office
P.O. Box 1869
Rock Springs, WY 82902

Dear Mr. LeBarron:

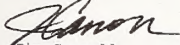
1 At its regular City Council Meeting of April 12, 1993, the City of Kemmerer Mayor and Council voted to provide comment on the BLM's Environmental Impact Statement for the Green River Area Resource Management Plan, specifically that the City of Kemmerer has concerns on any action that would place wholesale restrictions on oil and gas production in South Lincoln County.

Oil and gas production is a vital part of the economy in our county, as it is within the whole state. Revenues that are gained from the production of oil and gas in our area are important to the City's budget and to our ability to provide for the health, safety and welfare of our citizens and to continue to provide the services our citizens desire and deserve. It also boosts our economy by providing employment opportunities for our citizens.

We feel this plan will unfavorably effect the economy in the area of the management plan and that it will unfavorably effect the economy in all of Wyoming. It is our desire that you rewrite the oil and gas sections to allow natural gas production to increase, based on national forecasts and projected demands.

I appreciate the opportunity to comment on this plan. Please contact me if you have any questions.

Sincerely,


Jim Carroll
Mayor

JC/gy
cc: William C. Schilling, Executive Director - Wyoming Heritage Society

CITY HALL • 220 WYOMING HIGHWAY 233 • KEMMERER, WYOMING 83101 • (307) 877-9007 • FAX (307) 877-4707

Comment Responses

25-1 See response to comment 63-1.

26

CITY OF EVANSTON

1200 Main Street
EVANSTON, WYOMING 82930
(307) 789-9690



April 16, 1993

DENNIS J. OTTLEY
Mayor

Mr. Bill LeBarron
Bureau of Land Management
Rock Springs District Office
P.O. Box 1869
Rock Springs, Wyoming 82902

Dear Mr. LeBarron:

1 The City of Evanston has become very concerned with the recent environmental impact statement taken by the Bureau of Land Management regarding the oil and gas industry. We feel that this plan will have a very unfavorable effect on the economy in the Wyoming counties that are in the area of the management plan, plus it will have a negative effect on all of Wyoming.

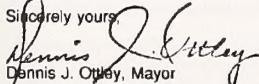
The City has been very involved in trying to encourage additional gas production in Southwestern Wyoming. We were very supportive of the project and making it become a reality, and we have worked very close with Union Pacific Resources in supporting their new project at Cave Creek.

The City and County revenues that are derived from the oil and gas production are very vital to our welfare. Without it we would never be able to maintain the quality of education or the quality of life that we have become accustomed to, our economy would possibly dwindle and employment would be rediculously high.

Therefore, we would request and urge you to rewrite the oil and gas sections to allow natural gas production to increase, based on national forecasts and projected demands.

Thanking you in advance for your consideration, and if you have any questions please call.

Sincerely yours,


Dennis J. Ottley, Mayor

cc: William C. Schilling, Executive Director - Wyoming Heritage Society

26-1 See response to comment 63-1.



27

Alice Frell Benitez, Director
Public Lands Division

1860 Lincoln Street, Suite 404 • Denver, Colorado 80295
Telephone 303/860-0099
FAX 303/860-0310

April 19, 1993

Ms. Renee Dana, Team Leader
Bureau of Land Management
Rock Springs District
P. O. Box 1869
Rock Springs, WY 82902

RE: Draft Environmental Impact Statement/Resource Management Plan
Green River Resource Area

Dear Ms. Dana:

On behalf of the Rocky Mountain Oil and Gas Association (RMOGA), following are comments on the Draft Environmental Impact Statement (EIS) and Resource Management Plan (RMP) prepared by the BLM on the Green River Resource Area (GRRA). RMOGA is a trade association with hundreds of members who account for more than 90 percent of the oil and gas exploration, development and transportation activities in the Rocky Mountain West. Consequently, we have a fundamental interest in the BLM's proposed management of oil and gas resources in the GRRA.

- 1 As a land management agency, the BLM has a civil responsibility to draw upon its expertise, as well as scientific information and findings, to formulate a sensible land management plan which carries forward the legally mandated multiple-use philosophy of public lands management. In so doing, the BLM must also comply with the analytical requirements of the National Environmental Policy Act (NEPA). RMOGA believes the BLM has failed to prepare an unbiased and reasonable RMP. Moreover, we do not believe the BLM has complied with NEPA's analytical requirements. The BLM's proposed change in management to profoundly increase restrictions on all oil and gas activities on the GRRA is arbitrary because it is not based upon accurate assumptions or facts.
- 2 Before we begin specific comments on what we believe are serious inadequacies of the DEIS/RMP, however, we would first like to discuss the BLM's intended management of existing leases and development activities and the application of Conditions of Approval (COA). The BLM states in Appendix 7-1, Page 7-11, Procedures for Oil and Gas Application Processing in

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Ms. Renee Dana, Team Leader
April 19, 1993
Page 2

Areas of Seasonal Restriction, "In seasonally crucial wildlife habitat, the approved APD will generally include a seasonal COA because the APD is valid for one year and field conditions during the crucial period cannot be predicted." This management strategy conflicts with recently established Bureau policy. The practice of imposing "blanket" COAs on APDs was raised in an industry protest of the Big Piney/LaBarge Coordinated Activity Plan (CAP). On page 3 of the BLM's October 21, 1992, decision on the CAP protest it is declared:

"The use restrictions on construction, drilling and well completion activities for the benefit of big game and other animals are not to be applied for a blanket 5-1/2 to 9-month period and are not to be applied as 'stipulations,' or additional stipulations, on existing unstipulated oil and gas leases. Rather, the need for restrictions is to be determined through case-by-case review and analysis of APDs and Sundry Notices, at the time such APD's and Sundry Notices are submitted for approval. Application of the restrictions is to be only as necessary and appropriate to avoid unnecessary and undue impacts."

The BLM has not established in the Draft EIS/RMP that there is a need for such restrictive COA's on each and every APD. The standard which must be met relates to the need to avoid unnecessary and undue degradation of the resource in question. In our view, maintenance and the logical progression of infill development cannot possibly result in unnecessary and undue impacts. While operators are certainly willing to work with the BLM to minimize impacts, there may be rare occasions where necessary and due impacts are the result of activities stemming from previously established legal rights. Consequently, it is necessary for the policy described to be modified to incorporate this requirement.

- 3 RMOGA is puzzled by the BLM's assertion on page 7-11 that "if a restrictive COA is specifically determined to be unreasonable by the Authorized Officer, mitigating measures must be considered (e.g., suspension of operations and production, alternative scheduling or development scenarios)." [emphasis added] If a COA has been deemed unreasonable, it is because the proposed activity would not result in unnecessary and undue degradation. BLM policy outlined in Washington Office Instruction Memorandum (IM) No. 92-67, directs:

"Any relocation greater than 200 meters, timing restriction greater than 60 days, or mitigation which would render a proposed operation uneconomic or technically infeasible is not considered to be consistent with a lessee's rights and cannot be required absent a lease stipulation, unless it is determined that such mitigation is required to prevent unnecessary and undue degradation of public lands or resources. The clear evidence and convincing need for such mitigation must be documented in a site-specific EA or EIS, if necessary, on the APD."

Comment Responses

27-1 The plan does support the multiple use concept for management of resources. Additionally, we have complied with the requirements for NEPA. Further analysis is also completed at the site-specific phase on individual or collective actions when activities are proposed. The changes between current management and the Preferred Plan do not profoundly increase resource restrictions. Rather, the resource information from two resource areas has now been consolidated and made available in one document. Clarification of assumptions used, intent of management, and the application of restrictions has been provided in the RMP Final EIS document.

27-2 The seasonal COA is an appropriate permit condition when applicable. The need for its enforcement will be determined on a case-by-case basis.

27-3 The confusing sentence in Appendix 7-1 has been deleted from the document and the following discussion has been inserted at the end of the immediately preceding paragraph. "The need for a COA must be documented in a site-specific EA or EIS, if necessary. This analysis must provide clear and convincing evidence showing undue and unnecessary degradation would result if the COA were not applied."

- 4 An excerpt from the Bureau's Decision on the Big Piney/LaBarge CAP further defines BLM policy:

"The BLM Wyoming State Director, or his representative, utilizing appropriate COAs, can exceed the 60-day and 200-meter rule for site-specific actions, such as an APD, where there is site-specific environmental analysis and clear and convincing evidence in the documentation showing undue and unnecessary degradation would result if protective restrictions were not applied. This takes into consideration that due and necessary degradation are acceptable." [emphasis added]

The mitigation identified by the BLM is precisely that which could be required by a COA to avoid unnecessary and undue degradation. However, if the COA is determined to be excessive, the same would be true of similarly restrictive mitigation measures, such as a suspension of operations and production. We strongly recommend that the BLM review its policy and make the necessary changes in the Final EIS.

- 5 A related issue concerns the procedures through which operators may obtain exceptions to seasonal constraints. We believe the BLM's Criteria for Considering Exceptions to Seasonally Restricted Activity are sensible as far as they go. However, in our opinion the criteria should be more explicit. Specifically, more detailed criteria would provide industry and the public with a better idea as to when an exception of a seasonal restriction could be granted. By establishing more specific criteria, the BLM will avoid public misunderstandings and future protests of perfectly reasonable decisions.
- 6 Another significant element which should be addressed in the exception criteria is the conspicuous lack of correlation between wildlife habitat and oil and gas activity. According to the Hayden-Wing Report prepared on big game and sage grouse in the Big Piney/La Barge area, the long-term rise in the deer population in areas where there are abundant oil and gas activities is proof that oil and gas operations have little, if any, effect on mule deer population. Absent scientific proof that oil and gas operations have a significant, detrimental impact on wintering mule deer and antelope, the BLM cannot justify limiting oil and gas activity for nearly six months out of every year.
- 7 Finally, we strongly recommend that the BLM take a more dynamic role in coordinating wildlife management activities with the Wyoming Game and Fish Department, especially with regard to establishing population goals and determining the capability of the habitat to sustain the objective herd levels. Since only minor improvements to deer and antelope habitat are being considered, it is logical for populations to be limited to levels which can be supported on existing habitat in

its existing condition. It is the BLM's responsibility to try to minimize conflicts between resources rather than add to them.

Necessity of Constraints

- 8 BLM policy requires planning documents to demonstrate the need for restrictions. Specifically, it must be shown that less restrictive measures were considered but found insufficient to protect the resource. The BLM's Supplemental Program Guidance for Fluid Minerals, Necessity of Constraints, Manual 1624, states:

"If closure or major operating constraints is discretionary with the Bureau, the supporting record should evidence that (1) less restrictive measures were considered but found inadequate to provide appropriate protection for other resource values which cannot share land use with fluid mineral development or be accommodated on other lands for the duration of possible land use for development and which are determined through the planning process to be deserving of protection. . ."

The possibility that there may be conflicts between certain uses or values does not in of itself warrant the imposition of restrictive stipulations. A examination of the resource's needs and the envisioned conflicts between it and oil and gas activities should be presented. In addition, the BLM should describe the various management options available, including the less restrictive protective measures, in order to show why a certain management approach is being proposed. The GRRA DEIS/RMP has not met the analytical specifications of the Supplemental Program Guidance for Fluid Minerals. Therefore, we urge the BLM to revise its analysis before finalizing its proposed action.

Geophysical Operations

- 9 RMOGA strongly objects to the BLM's proposal to impose Off-Road Vehicle restrictions on geophysical activities. This proposed departure from current management will have a catastrophic effect on future geophysical activities in the GRRA. Geophysical surveys, vital to both oil and gas exploration and development programs, have very minor, short-term impacts on surface resources. To limit these activities to existing or designated roads and/or trails will thwart future oil and gas exploration and development activity.

As discussed in the DEIS, current management of geophysical activities does not require broad compliance with off-road vehicle travel restrictions. Access restrictions are imposed only when a site-specific analysis shows it is necessary. The analysis in the GRRA RMP/DEIS has not verified that current management has resulted in negative effects on the surface resources or the

Comment Responses

- 27-4 See response to comment 27-3.

27-5 This exception criteria was developed cooperatively by representatives of the GRRA and the Wyoming Game and Fish Department. The group putting this document together agreed that development of detailed specific criteria such as depth of snow, length of cold weather, etc. would basically restrict industry more and would reduce the flexibility that we now have to grant exceptions. The biologists were in agreement that professional judgement was required to assess the weather conditions and condition of the animals. The important aspect of this document is that winter stipulations are there to protect animals if the need arises and that crucial winter ranges are not off limits to development during this time period.

27-6 We recognized the Hayden-Wing Report in the analysis. However, each herd unit can react differently to different habitat types and to different levels of activity. Human disturbance causes stress on big game during the winter along with management facilities. Predators and other things also cause stress on big game in winter. All can result in greater-than-normal mortality in March. Therefore, our intent is to reduce human activity on crucial winter habitats when conditions warrant (Appendix 7-1).

27-7 BLM maintains an active coordination role with the Wyoming Game and Fish Department. Objective herd population levels are, for the most part, based upon habitat-carrying capacity.

27-8 See response to comment 27-1. The RMP team analyzed many alternatives, not all in detail in the document. Analysis of less restrictive to most restrictive was considered in the alternatives, in the MSA, and through interdisciplinary team meetings. Generalized effects of activities are discussed in Appendix 12, to provide a basis for consideration of effects from specific actions in the alternatives. The team also provided guidance on what could be considered an unacceptable level of effect. Clarification of this and the analyses is found in the RMP Final EIS.

27-9 All vehicle travel is subjected to Off-Road Vehicle (ORV) designations. Since geophysical operations require the use of vehicles, the industry must comply with these designations. Upon receipt of a geophysical Notice of intent, a site-specific analysis will be completed to determine appropriate limitations and mitigating measures. This is not a new policy, the geophysical industry has always been subject to Off-Road Vehicle designations. There are some critical areas (closed to all off-road vehicles) that you will not be able to explore by vehicle, such as candidate plant sites, Wilderness Study Areas, and cultural sites.

The Final EIS includes clarification of the ORV policy associated with geophysical exploration. The policy for geophysical exploration is stated: "Geophysical exploration has been and will continue to be routinely granted site specific authorizations for off-road vehicular activity subject to appropriate limitations to protect various resources. Geophysical notices of intent are evaluated on a case-by-case basis, and all authorizations are issued with appropriate surface and human-presence disturbance mitigation requirements."

ORV designations are summarized in Volume I, page 164-168, Tables 2-14 and 2-15, and detailed definitions are found on p. 625 of the Draft EIS.

27

Ms. Renee Dana, Team Leader
April 19, 1993
Page 5

environment. Consequently, we object to the BLM's proposal to compel geophysical operators to conform to off-road vehicle restrictions because it is unwarranted and would severely impede exploration throughout the GRRRA.

- 10 The oil and gas industry is required to comply with a complex procedure before it can obtain approval of all geophysical operations on BLM lands. A Notice of Intent to Conduct Oil and Gas Exploration Operations (NOI) must provide the BLM with all the pertinent information regarding the proposed activity, i.e., the location of the geophysical line, access routes, or any additional facilities. Moreover, a site-specific cultural clearance may also be required. In other words, the activity must meet many standards the BLM has established for operating on public lands. Last, but not least, the BLM can oversee the project to ensure it is in compliance with BLM's specifications. Considering the process and conditions which must be met before geophysical activities are approved by the BLM, an increase in restrictions is arbitrary and unnecessary.
- 11 The BLM attempts to justify its proposal with imprecise data. A good illustration of this is found on Page 533 of the DEIS where the BLM claims that mineral exploration, development and production activities pose a threat of fire due to the use of catalytic converters on vehicles and the use of surface explosives. The likelihood of fires being started by the use of such equipment is undoubtedly remote. Comprehensive fire prevention procedures utilized during all geophysical operations to avoid this very problem have been proven very successful as evidenced by the virtual nonexistence of fires caused by these activities.
- 12 It is important to note that subsequent discussion regarding geophysical activities indicates that current management adequately protects candidate plant species locations. Regarding current management, the BLM reveals on Page 533 of the RMP/EIS, "Management of geophysical activities to avoid actual candidate plants sites would prevent existing populations from being impacted." Obviously, current management practices are adequate to protect the plant resource. Therefore, there are absolutely no grounds for placing the excessive restrictions delineated in the Preferred Alternative on geophysical exploration as a means to protect candidate plant species.
- 13 The BLM's statement on Page 513 of the DEIS that restrictions on geophysical exploration are needed to ensure protection of visual resources in the South Park Historic Landscape and other areas is inaccurate. There are no notable impacts to visual quality due to geophysical activities. The BLM has failed to even identify the impacts which must be avoided. We do not believe that the effects associated with geophysical exploration are of such a magnitude that BLM must formulate overly restrictive protection measures.

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Ms. Renee Dana, Team Leader
April 19, 1993
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Range of Alternatives

- 14 RMOGA considers the range of alternatives analyzed in detail in the DEIS to be sorely inadequate. The BLM's decision to eliminate from detailed study a "No Lease" alternative is reasonable because such a management option is outside legal mandates and BLM policy. However, we believe the BLM should consider an alternative which would allow leasing with standard lease terms and conditions because it would furnish a baseline for evaluating the maximum impact which could be associated with oil and gas exploration and development activities; which is not to say unrestrictive activities will be allowed. An analysis of such an alternative would advise the public that BLM has the legal authority to reasonably control energy activities and to protect the environment even without resorting to restrictive lease stipulations. An added benefit of this alternative is that it would provide the BLM with a basis for justifying the use of stipulations in areas where standard lease terms would not provide sufficient protection. We encourage the BLM incorporate this alternative in the Final EIS.

Candidate Plant Species

- 15 RMOGA strenuously objects to the BLM's proposal to ban leasing in areas which contain candidate plant species. This approach to protection is unquestionably excessive. Moreover, the BLM has not assessed all its available choices in safeguarding candidate plant species and their associated habitat areas. The BLM proposes to ban leasing on 440 acres of known habitat while implementing an NSO stipulation on the adjacent 39,660 acres to ensure viability of the species. We recommend that the BLM analyze the effects which could ensue from utilization of a CSU stipulation, as is described on Table 2-1, page 21, rather than banning leasing or applying an NSO stipulation. Since the BLM has failed to provide any data to support the use of such severe restrictions in these areas, it can be assumed that a CSU stipulation would provide adequate protection of candidate plant species and their known and potential habitat areas. We do not subscribe to the notion that no lease or NSO is needed to protect this resource.

Areas of Critical Environmental Concern (ACEC)

- 16 The BLM needs to document in the RMP/DEIS that the areas proposed for ACEC designation meet the designation criteria set forth in BLM Manual Section 1613. The BLM is required to show that proposed ACEC's are significant in terms of relevance and importance. We do not believe the BLM has proved these areas have: 1) more-than-locally significant qualities that give them special worth compared to similar resources, 2) qualities or circumstances that make them exemplary or unique, 3) been recognized as warranting protection to satisfy national priority concerns or to carry out the mandates of the FLPMA, 4) qualities that warrant highlighting to satisfy concerns about safety and public welfare or 5) posed a significant threat to human life

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27-10 See response to comment 27-9.

27-11 Industry-accepted techniques recognize the effect of increased human activity generally leads to an increase of person-caused fires. Current fire history places more person fires near those areas of assembly whether it is recreation or industry. Current and future development stipulations imply and demonstrate this relationship.

27-12 Populations are closed to all vehicle use, not just geophysical activity. These areas are small and extremely localized. Avoidance of these sites is feasible and should not adversely affect operations. In some areas, plants have been crushed by vehicles, and trampled by human activity. Additionally, dust and particulates may cause adverse effects. Since these habitats are localized and extremely site specific, any alteration of that habitat can adversely affect plant populations. At this time, there is no known mitigation for transplanting or reestablishing populations. However, should more information become available, or a plant delisted, the plan would be modified accordingly and additional analysis would determine the types of activity that could occur.

27-13 Thank you for your comment. The South Pass Historic Landscape is an area with national significance because of historical events that occurred as a result of the configuration of the landscape itself. This landscape retains visual integrity that should not be compromised. Most geophysical operations result in short-term and sometimes long-term long linear disturbances that are visible on the landscape. In much of the South Pass Historic Landscape, soil and vegetation types and climatic conditions tend to cause a prolonged recovery period before visual integrity would be restored.

27-14 See response to comment 27-8. Alternative B analyzed removing restrictions not required by law. We feel that we have provided a reasonable range of alternatives under the laws and policy guidance currently in effect.

27-15 The BLM does not propose to ban leasing in areas that contain Candidate plant species. Current proposed special status plant policy would provide maximum protection for federal listed species through a No Surface Occupancy designation, while providing all leaseholders the opportunity to develop their leases. Operators will be given notice at the time of lease sale of any special stipulations or conditions of approval that may be necessary. Currently, there are no known successful forms of mitigation for special status plants other than avoidance; therefore, this is the only acceptable option to provide them with protection.

27-16 Modifications have been made in the RMP Final EIS to include the relevance and importance criteria for ACECs.

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and safety or to property. In order for the BLM to justify its ACEC proposals, it must be clearly demonstrated that they meet these specific requirements.

- 17 RMOGA objects to the BLM's proposal to designate an ACEC on 43,010 acres in the Steamboat Mountain area because it already contains oil and gas production on four leases. While we recognize that this area also contains the Steamboat Mountain elk herd, we do disagree agree that an ACEC designation is needed to ensure the herd's viability. Other elk herds throughout Wyoming are maintained in areas which routinely experience intense oil and gas activity. In fact, it has been shown that development of the Riley Ridge field has had very little impact on the resident elk herd, according to the 1990 Hayden-Wing study prepared for Exxon U.S.A. and the Wyoming Game and Fish Department.

RMOGA also objects to the BLM's proposal to delay all further leasing in this area until a "site-specific" leasing plan can be done. The BLM has taken several years to analyze land use, including leasing, in the GRRA. It is unclear why the BLM is unable to make a leasing decision on the Steamboat Mountain area in the planning document. Obviously, there is high industry interest in this area as evidenced by existing production and 60 existing leases. Therefore, we urge the BLM to make a leasing decision in this area in the Final RMP/EIS.

- 18 RMOGA strongly objects to the proposed Tri-State Monument ACEC. The areas contained in this proposal, Sage Creek and Current Creek, have high potential for oil and gas resources and the Red Creek area already contains an important right-of-way corridor which must remain open to future right-of-way needs, such as pipelines to fields to the south.

The proposed withdrawal from oil and gas leasing of the Red Creek Area and the imposition of NSO on the other areas will result in a significant reduction in access to the highly prospective energy resource land base in the GRRA. As such, it is incumbent upon the BLM to clearly demonstrate that oil and gas activities are incompatible with the management objectives for these areas. This has not been done. In fact, there is nothing in the RMP/DEIS which demonstrates that it is necessary to protect these areas through leasing prohibitions or leasing without surface occupancy. The BLM must clearly show why oil and gas activities have been deemed incompatible uses in these areas.

Potentially Suitable Wild and Scenic Rivers

- 19 Thank you for the copy of the BLM Manual, Section 8351 - Wild and Scenic Rivers. While we are cognizant of the law, it is helpful to understand the BLM's policy and program direction. Nevertheless, RMOGA remains opposed to the BLM's proposed Interim Management for potentially suitable wild and scenic rivers. We believe this interim management exceeds not only the legal requirements of the Wild and Scenic Rivers Act of 1968, but also BLM policy.

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- 20 Furthermore, the Federal Oil and Gas Leasing Reform Act of 1987 does not withdraw from oil and gas leasing rivers under study to determine their wild and scenic suitability. It is unclear why the BLM believes it must prohibit mineral leasing in both candidate wild and scenic river segments. Such management is more restrictive than either the law or the BLM Manual require and is more restrictive than is necessary to protect the river resource. Congress did not intend for rivers under study to be withdrawn from mineral leasing. The law states at 16 USC Subsection 1280(b):

"Nothing contained in this subsection shall be construed to forbid prospecting or the issuance or [off] leases, licenses, and permits under the mineral leasing laws subject to such conditions . . . appropriate to safeguard the area in the event it is subsequently included in the system."

Moreover, there is no BLM requirement for withdrawing study rivers from leasing. The above referenced BLM Manual states at 8351.52(B):

"(1) A moratorium is automatically placed on any new mining claims filed on Federal lands within the designated river study area. . . (3) If a river is bounded by Federal land, the responsible managing agency shall manage these lands in such a manner to avoid degrading the river corridor during the study period."

No mention is made of withdrawing these areas from oil and gas leasing. The reason for not prohibiting leasing is due to the fact that the BLM has the authority through stipulations and lease notices to protect the rivers' qualities without resorting to a leasing ban.

We acknowledge that Manual 8351.53(A) allows "Where determined necessary by resource management objectives as outlined in the RMP or other sources, action may be initiated to withdraw the river corridor/area". However, no such determinations have been made in the GRRA RMP/DEIS. As we stated previously, the mere statement that there may be user conflicts or that BLM intends to manage a resource in a particular manner is not justification for imposing restrictions. Justification must be provided as mandated by the SPG; a specific cause and effect must be disclosed. The arbitrary withdrawal of study river segments from oil and gas leasing will set an onerous, groundless precedent which could cause needless conflicts on other river segments in Wyoming.

We believe the BLM retains adequate authority to protect rivers under study with the application of a CSU stipulation on wild segments. Segments found suitable for study as scenic or recreational rivers should be leased with standard terms and conditions with an accompanying lease notice indicating mitigation may be required.

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- 27-17 The ACEC designation for the Steamboat Mountain area is not based entirely on the Steamboat Mountain elk herd. There are many other important values for this area such as cultural, historical, visual, scenic, recreation, and unique habitat areas. An ACEC designation also does not preclude oil and gas activities. The Riley Ridge development did have an effect and did cause displacement of elk. This displacement was generally less than a mile; however, there were instances of displacement greater than two miles. The big difference between the two areas is the lack of forested habitats (escape cover) in the Steamboat Mountain area. Elk in the Steamboat area travel until they are out of sight, which in many cases is greater than three miles.

The leasing recommendations for the Steamboat Mountain area have been modified. Since much of this area is already leased, exploration is taking place, and units have been formed, the likelihood of leases expiring in the future is slim. As a result, it is impractical to expect to obtain enough unleased area to configure parcels. Instead of formulating a plan to configure parcels, we will require plans of development to ensure protection of the habitat and use by the elk. Additionally, some unleased areas may not be leased, or may be leased with a "no surface occupancy" restriction for oil and gas exploration and development.

Since the publication of the RMP Draft EIS, a unit has been proposed within the Steamboat proposed ACEC. At this time, we are coordinating with the company to allow development within the proposed ACEC.

- 27-18 Surface disturbing activities and occupancy on the steep slopes of Currant Creek or within 500 feet of the riparian areas are inconsistent with the resource goals objectives set forth in the RMP and site specific activity plans. Maintenance of watershed values and protection of the stream, its riparian habitat and water quality, and the continued enhancement of Colorado River Cutthroat trout populations (a category 2 candidate species for federal listing) make the NSO and no surface disturbance areas under the Preferred Alternative a necessity. Sage Creek was not included in these categories but does have surface disturbance restrictions which will be looked at case by case. Sage Creek has 6,660 acres of high potential out of 52,960 acres or 12.6% of the watershed. Red Creek has some no lease, no surface occupancy, and surface disturbance restrictions. These areas are restricted because of the high erodibility of the soils in the area. The Currant Creek watershed has no high potential hydrocarbon areas within its boundaries and Red Creek has 18,890 acres listed as high hydrocarbon potential which may not be accessible for extraction. The entire area for the Greater Red Creek (formerly Tri-State) ACEC is 131,890 acres making the high potential area about 14% of the ACEC that may not be accessible for extraction. Some modifications have been made in the Final EIS.

- 27-19 Thank you for your comment. We do not agree that the proposed Interim Management guidelines in the Draft EIS exceed legal requirements of the Wild and Scenic River Act. Section 10(1) of the Act states that:

"Each component of the national wild and scenic rivers system shall be administered in such a manner as to protect and enhance the values which caused it to be included in said system without, insofar as is consistent therewith, limiting other uses that do not substantially interfere with public use and enjoyment of these values. In such administration, primary emphasis shall be given to protecting its esthetic, scenic, historic, archaeologic and scientific features. Management plans for any such component may establish varying degrees of intensity for its protection and development of the special attributes of the area."

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Visual Resource Management

21 RMOGA is concerned regarding the program mentioned on Page 513 through which the BLM intends to improve the visual quality of existing oil fields to benefit visual and other resource values, such as soil, watershed and vegetation. No specifics as to how this program would be implemented have been included in the RMP/DEIS documents. We strongly believe that in order to obtain industry support and cooperation, the BLM must identify what it wants the program to entail as well as coordinate its program with area operators.

22 BLM has not provided a rational basis for its proposal to place the eastern portion of the Sand Dunes ACEC in Visual Resource Management (VRM) Class II. This area already contains 18 producing wells. Obviously, the effects on visual quality of existing facilities are minimal and not a source of conflict which would compromise a VRM Class II designation. However, the BLM has stated that it plans on examining the visual impacts of these existing operations to determine how they could be mitigated. We feel we must emphasize that valid, existing lease rights prevail over any changes in visual management and that the existing operations cannot be compromised by a more restrictive VRM classification.

Buffer Zones

23 RMOGA supports the use of an NSO stipulation to protect petroglyph sites. Notwithstanding this support, we do not advocate the imposition of 1/2 mile buffer zones around the sites as directed in the Preferred Alternative. The five known rock art sites, themselves, encompass a total of 100 acres. Yet, the BLM intends to arbitrarily restrict surface occupancy on 2,400 acres surrounding these sites in order to preserve their "visual integrity." However no documentation showing the visual integrity would be jeopardized in these areas if oil and gas activities were to take place is provided. We do not accept "gut feelings" as true fact.

As was discussed during industry meetings on the subject RMP, a more reasonable approach would be for the BLM to refine these areas by utilizing modeling and GIS mapping techniques. Nevertheless, the use of an NSO stipulation to protect these areas is still unduly severe. Also, it disregards good working relationship built between the BLM and industry. Protection of these areas can be accomplished by employing a CSU stipulation. Utilization of the CSU stipulation would guarantee that only the areas in which the visual integrity could be jeopardized would be restricted.

Operational Standards

24 The requirement that all oil and gas roads must be paved and/or upgraded as indicated on Page 178 is unreasonable. Not only would this requirement place an undue financial burden upon the

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oil and gas industry, but it could also similarly impact local governments if they are required to meet the same standards. (We assume that the oil and gas industry is not being singled out in this regard.) In addition to retaining management flexibility, the BLM needs to determine whether it is truly essential to upgrade or pave all roads in the GRRA. We recommend that the BLM conduct a transportation study to specifically identify roads which require upgrading. It would make more sense to limit upgrading of roads to those which need it and where there would be an obvious benefit.

25 In Chapter 4 of the DEIS, the BLM predicts that the average oil and gas access road will be less than one mile in length. Obviously, paving this type of road would be excessive, barring a particularly unusual situation. Moreover, there are several negative aspects to requiring high road standards which need to be addressed. Specifically, paved roads cost substantially more to construct and they can also cause broader and needless surface disturbance which is much more difficult and costly to reclaim. There is a real possibility that marginal wells with long access roads would be shut in because it would prove uneconomical for the operator to upgrade the roads. This would translate into a negative socio-economic impact on the state as well. The only time an operator should be required to have a road engineered and/or paved is when unstable soils are involved.

26 We oppose the BLM's mitigation specifications which mandate that reserve pits in areas with a soil permeability of greater than 0.06 inch per hour must be lined. The reason why such mitigation would be required on all such well locations is obscure. Nonetheless, this overly restrictive standard must be relaxed because drilling muds and fluids do not always contain substances which could result in groundwater contamination. Specifically, pit liners should not be required for wells where only bentonite or other benign drilling muds are going to be used. It would be much more reasonable if the use of liners is limited to situations where the operator intends to use chemical based drilling fluids or muds. Operations where chemical or oil-based muds will not be used should not be burdened with the additional requirement to install pit liners.

Surface Disturbance Inconsistencies

27 The BLM's disturbance figures clearly show the anticipated level of impact from oil and gas activities is trifling. Using the BLM's own disturbance figures to calculate potential effects associated with the 1,258-well reasonably foreseeable development (RFD) scenario, a total of 6,290 acres would be affected in the long run. The estimated disturbance related to the projected maximum RFD of 2,385 wells is a mere 11,924.5 acres, a trivial effect when one considers the GRRA is larger than 3.5 million-acres. In view of our calculations, we are confused regarding the BLM's conclusion on page 519 that 20,268 acres of wildlife habitat would be foregone if the Preferred Alternative was adopted. This is almost double the figure

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This section of the Act was interpreted by the Secretaries of the Interior and Agriculture in 1970 and 1982 in joint guidelines as stating a nondegradation and enhancement policy for all designated river areas, regardless of classification.

The guidelines also apply on an interim basis on designated rivers prior to management plan approval and to rivers or river segments which are found to be eligible for consideration as additions to the national system through the BLM's land use planning process.

In keeping with the guidelines established by the Secretaries of Agriculture and the Interior, proposed interim management prescriptions for minerals activity for potential scenic river segments have been revised in the RMP Final EIS. Please see text changes.

In addition, the BLM 8351 Manual governing the Wild and Scenic Rivers program states: "**Protective Management.** When a river segment is determined eligible and given a tentative classification (wild, scenic, and/or recreational), its identified outstandingly remarkable values shall be afforded adequate protection, subject to valid existing rights, and until the eligibility determination is superseded, management activities and authorized uses shall not be allowed to adversely affect either eligibility or the tentative classification..."

27-20 We don't feel we are in violation of the Act. Leasing of oil and gas is a discretionary action. Through the land use planning areas, it can be closed to leasing. See also response to comment 27-19.

27-21 The need to prepare rehabilitation plans for certain oil and gas fields was identified as a Watershed/Soils management action. Map 22 identified two additional field areas where rehabilitation, for visual values, is necessary. If the final decision is to approve this proposed action, then the details of putting together a reasonable rehabilitation plan will be taken up at the next stage of the planning process. Any rehabilitation plan will be prepared in coordination with those operators likely to be affected by a plan to rehabilitate a specific field. More information can be found in the Visual Resource Management (VRM) Management Situation Analysis at the Green River Resource Area Office. We often attach some of the common mitigation measures to a permit.

27-22 Even though there are 18 producing wells in the eastern portion of the Sand Dunes ACEC, the striking contrast of the dunes with the lands around it warrant a Visual Resource Management (VRM) classification of a Class II. Additionally, when the oil field is exhausted and the associated facilities are removed, the area will return to a natural state. Ensuring early visual design inputs into non-Bureau initiated projects in many cases is beyond Bureau control. However, every effort is made to inform potential applicants of the visual management objectives so they can adequately incorporate visual design considerations into their initial planning and design efforts.

27-23 Facilities within view of a Native American rock art site constitute a visual distraction that is inappropriate given the spiritual and religious significance of these sites. Native American informants and historical research indicates that these sites were and sometimes still are, used for religious purposes in which the natural setting cannot be separated from the rock art panel itself. The 1/2 mile "buffer" was requested by Native American spiritual leaders to protect the integrity of setting of these sites. After further review on this matter, we agree that an arbitrary restriction of a 1/2 mile buffer does not represent the true visual integrity of the rock art sites. Consequently, a computer vista analysis is being utilized that will determine only the visual characteristics needing protection.

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we calculated for new development, which is probably an elevated assumption itself. The BLM needs to reassess its surface disturbance calculations to eradicate errors such as these in the final EIS.

28 We are also confused regarding the BLM's No Lease figures. In particular, Table 2-1 shows that 331,020 acres will not be available for lease, while Table 2-9 indicates that 337,510 acres will not be leased. Then it is asserted on page 502 that 465,570 acres will be withheld from leasing if the Preferred Alternative is selected. We need to know the correct figures.

29 Map 15, which depicts areas subject to NSO stipulations under the Preferred Alternative, appears to be identical to Map 17, which displays areas subject to Surface Disturbance Stipulations. The BLM does not need to impose NSO stipulations in areas where a surface disturbance stipulation will suffice. Nevertheless, a distinction should be made between these two maps and their intended restrictions.

Conclusion

In summary, RMOGA is exceedingly disturbed by the BLM's undeniable predilection for inhibiting future oil and gas exploration and development operations. Upon review of the RMP/EIS, it is clear that the BLM has unquestionably failed to demonstrate the need for its proposed enormous increase in restrictions on future oil and gas activities. In fact, the analysis and information disclosed in the planning documents reveals just the opposite. The DEIS clearly demonstrates that the effects from projected future oil and gas activities are less than insignificant, they are minuscule.

30 Moreover, the BLM has failed to comply with the analytical requirements of the National Environmental Policy Act (NEPA) because the EIS does not address the severe, negative impacts its proposed management will have on the federal oil and gas program in the GRRA. NEPA explicitly requires federal agencies to consider economic, social, aesthetic and historic effects of its proposed actions (40 CFR 1508.27(b)). We contend that the BLM has not fully considered the effects its proposed management will have on existing and future oil and gas activities in the GRRA. Additionally, the BLM has failed to demonstrate that less restrictive stipulations are an inadequate means to protect sensitive resources as is required by the BLM 1624 Manual, SPG. We firmly believe that the proposed increased level of restriction is unwarranted and will only serve to severely curtail the highly productive oil and gas program in the GRRA.

31 Therefore, we urge the BLM to reconsider its selected Preferred Alternative because it unjustly singles out oil and gas exploration and development activities as uses which must be discouraged and impeded wherever possible. A new alternative which fully considers the true need for

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existing restrictions along with any new restrictions should be analyzed and adopted in the final EIS.

RMOGA would like to offer its services to the BLM in the formulation of a more sensible approach to managing oil and gas exploration and development activities in the GRRA. If you have any questions regarding our comments and/or recommendations, please call me or Claire Moseley. We will be happy to discuss them with you.

Sincerely,

Alice Frell Benitez

Alice Frell Benitez
Public Lands Director

CMM:cw

cc: C. W. "Pete" Culp, Jr. - Acting BLM Director
Ray Brubaker - Wyoming BLM State Director
Petroleum Association of Wyoming

Comment Responses

BLM management of these sites is dictated not only by the NHPA, but also by the American Indian Religious Freedom Act.

However, BLM does not believe conditional surface use stipulations are sufficient to manage cultural resources that are significant and eligible for the NRHP because of their visual integrity. We do use conditional surface use stipulations in many cases and we agree that results **usually** are acceptable. However, the special resource values of these specific rock art sites require more stringent management prescriptions.

27-24 The Green River RMP Draft EIS did not state that all oil and gas roads must be paved or upgraded as stated in your letter. The only reference to paving in the document is in Appendix 5-2, which referenced Wyoming Air Quality Standards and Regulations. Paving of roads using asphaltic, tar, or concrete materials will normally occur only at the request of applicants, unless deemed necessary because of the volume or type of traffic, or as required by state air quality standards.

The requirements to design and construct roads is described in BLM Manual 9113 and have been in effect since 1985. This manual will be used to continue requirements to ensure the safety of road users and to protect resources. These requirements apply to non-government entities constructing or reconstructing roads on public lands. The upgrading and graveling of existing main artery roads will occur primarily in areas where resource damage is occurring, where the safety of road users is jeopardized by the condition or geometry of the road, or where heavy all-weather traffic must be accommodated. One important component associated with road design is transportation planning and condition survey that identify roads that warrant upgrading and to what extent.

27-25 See response to comment 27-24.

27-26 The text has been changed to reflect that lining would be considered on a case-by-case basis.

Pit lining will adhere to guidelines from the "Rules and Regulations of the Wyoming Oil and Gas Conservation Commission-Practices and Procedures." Lining of the pit should include but not be limited to characteristics such as pervious soils (sands, gravel, loams, etc.), locations adjacent to the Green River drainage, and other sensitive environments. Pits constructed in fill or those used to retain oil base drilling muds, high density brine, and/or completion or treating fluids must be lined.

Liners constructed of synthetic materials must meet the following specifications: a 9-12 mil thickness, greater than 20% elongation at failure, puncture strength of 60 pounds, tear strength of 50 pounds, and permeability less than 10^{-7} cm/sec.

In areas where groundwater is less than 20 feet below the surface, a closed system must be utilized.

Current guidelines from the Oil and Gas Conservation Commission should be referred to if there are questions relating to criteria.

27-27 The analysis was on the disturbance of well pad and some access roads. In further analysis of "associated disturbance activities" such as pipelines, compressor sites, staging areas, etc. the conservative figure came to over 20,000 acres. In this analysis we did not consider other habitat factors such as fragmentation and long-term human activity. The calculations will be revisited when we analyze total disturbance in relation to the number of wells in a representative area like Blue Forest, Lincoln Road, Reservoir, and Raptor units.

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27-28 The acreage should be consistent with Table 2-9, page 147 of the Draft EIS. The final will be reviewed for consistency.

27-29 Maps 15 and 17 refer not only to oil and gas, but all surface disturbing activities (livestock reservoirs, recreation sites, wildlife structures, etc.).

27-30 See responses to comments 27-1 and 27-8.

27-31 We are confident that we have fully justified the restrictions that have been placed in this plan.

28



PETROLEUM ASSOCIATION OF WYOMING

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April 19, 1993

CORRECTED COPY

Mr. William LeBarron, Area Manager
Green River Resource Area
P.O. Box 1170
Rock Springs, WY 82902-1170

Dear Mr. LeBarron:

The Petroleum Association of Wyoming (PAW), offers the following response to the Draft Environmental Impact Statement (DEIS) and Resource Management Plan (RMP) for the Green River Resource Area (GRRA). PAW, a division of the Rocky Mountain Oil and Gas Association (RMOGA), represents a membership which accounts for over 90% of the oil and gas exploration, production and transportation in the state of Wyoming. Since our members play a vital role in the level of onshore oil and gas exploration and production which takes place on western federal, state and private lands, they clearly appreciate the factors which must be taken into account to maintain a sound domestic oil and gas program.

Southwestern Wyoming and the GRRA hold vast reserves of natural gas. Exploration and development of these resources are of paramount importance to the socio-economic and energy welfare of Wyoming and the nation.

1 There is significant potential to develop natural gas, not only in the GRRA, but other parts of the state as well. The availability of access for exploration, gathering lines and pipeline capacity will be imperative to future development and transportation of clean-burning, affordable, natural gas as demand from Southern California and other markets continues to expand. The designation of vast "right-of-way avoidance areas" and other restrictions throughout the RMP/DEIS, which arbitrarily and unnecessarily increase the cost of developing Wyoming gas, could place producers and marketers at a competitive disadvantage. Correspondingly, Wyoming would be deprived of vital economic benefits which "fuel" state and local governments, fund quality schools and education, and construct highways to facilitate other important industries such as recreation and tourism.

28-1 Avoidance areas are areas on public lands where future rights-of-way may be granted only when no feasible alternative routes are available. We have described these areas because of the significant resource values within their boundaries. These resources are not only important to the environment we live in but they also contribute to the economy of the State.



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- 2 Barlow & Haun, Inc., consulting geologists for the Wyoming Natural Gas Pipeline Authority reported in 1990:

"The central Rocky Mountain area natural gas resource, which is centered in southwestern Wyoming and adjacent areas of Colorado and Utah, is a large volume gas resource that is not being used at a rate comparable to other U.S. gas producing area. New pipelines and revision of rate structures on existing pipelines will develop new markets to more effectively use the central Rockies gas resource to reduce the heavy draw down on traditional producing area."
(emphasis added)

"...approximately 85 to 90 percent of the Rocky Mountain resource is located within Wyoming...reserve and undiscovered resource numbers...are estimates of the Department of Energy and the Potential Gas Committee...."
(emphasis added)

"...83 percent of the gas supply in the Rocky Mountain area remains to be produced, while the traditional supply area has 40 percent remaining to be produced...the central Rocky Mountain area has a remaining production life of 128 years..."

"The central Rocky Mountain area has been in the past an underutilized island of natural gas supply primarily limited to use in the local geographic market, not mainstreamed to major consuming areas of the United States...With foreseeable increased demand for natural gas throughout the United States, and chiefly in California, attention has focused on the central Rocky Mountain area for a natural gas resource."

Fruition of various Department of Energy, Potential Oil and Gas Committee, U.S. Geological Survey, and Barlow & Haun, Inc. prognostications are clearly evident in the GRRRA. The Kern River Project, which the DEIS (pg. 385) reports as being "under construction," has been shipping tremendous volumes of gas for over a year. Approximately 86% of the pipeline's 700 MMcf/D volume is Wyoming gas, almost all from the southwest corner of the state.

Considering the depth of BLM involvement in planning, permitting and facilitating drilling and major pipeline construction in the GRRRA, the magnitude of error in reporting past, present and future oil/gas production is incomprehensible. According to Wyoming's State Oil and Gas Supervisor, Don Basko, "The actual and projected production figures are all on the low side by a factor of 8 to 12." Such discrepancies, incorporated into DEIS/RMP assumptions and analyses, severely undermine the integrity of significant portions of the documents.



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- 3 It is equally alarming that the agency elected to forgo any mention, let alone, a well-deserved report, of the current status and anticipated completion of the proposed Altamont Pipeline. Altamont has, in good faith, made every effort to accommodate existing GRRRA plans, having met criteria, standards and coordination requirements. Yet, the project, nearly two years overdue, is ignored rather than addressed in the RMP/DEIS. It is remiss of the agency to subject this project to a "shell game" by now declaring much of the proposed route as "Right-of-Way avoidance areas." Are "grandfather rights" for Altamont's 1989 applications for Right-of-Way grants being incorporated into planning and decision making in the GRRRA?

- 4 The length and complexity of the RMP/DEIS is overpowering. Size however, is not the vital measure of the document--rather the completeness, accuracy and fairness of content determine its adequacy. Misinformation-- provided to decision makers and widely distributed to other agencies and the public-- must, be identified, page by page, and replaced with correct information in the FEIS.

A text, packed full of "might", "may" and "could" suppositions, gives undue credence, to excessive restrictions and expanded special designations. Scarcely evident throughout the document are examples or discussions of the tremendous success of multiple-use management, lessons learned, scientific and technological capabilities. Lacking as well, is reference to specific unacceptable past experiences, or documentation, which demonstrates that similar situations cannot be improved and mitigated today. This "what if" rather than "can do" management approach sells short the experience and expertise of the agency and the oil and gas industry.

The RMP/DEIS confirms (pg. 18) that:

"Public comments received during issue identification and the development of planning criteria indicated general acceptance of mineral leasing and development, provided it is properly managed. It was further pointed out that, in most cases, leaseable mineral exploration and development could take place in a manner that would avoid unacceptable adverse impacts to the other resources in the planning area."

- 5 Why then, has so much emphasis been directed at more limited access, expansion of special area designations and accountability from industry for resource and wildlife degradation which is not referenced site-specifically or supported by comprehensive scientific records? The BLM should explain to what degree recommendations of other agencies were given priority "issue" status.

- 6 Contrary to the intent of NEPA, identification of "areas of controversy" has become the driving force of the federal land planning process. Agency determination to stress areas

Comment Responses

28-2 See responses to comments 17-2 and 63-1.

28-3 See response to comment 8-3.

28-4 Since no decisions are made in the RMP Draft EIS, terms such as would, should, could, and may, are appropriate. Also, because the level of resource management recommendations vary, the RMP is a broad programmatic, as opposed to a site-specific, document. We agree that the document is large, and an effort will be made to reduce the size for the final document. The size of the area and the resource values associated with the GRRRA contributed to the difficulty of keeping the document small.

28-5 The BLM considered all information supplied by all entities, not just agencies and groups. Priority issue status was not assigned. Resource data was reviewed by area specialists and if found acceptable, incorporated into the data base. Data included such things as candidate plant locations, mineral potential, and wildlife habitats. Much of the information provided in the RMP Draft EIS is not new, but had not been previously assembled in one document. The development of the RMP Draft EIS and the combining of information from what previously were two separate resource areas, led to this compilation of information.

28-6 Issue identification is an integral part of land use planning. This phase can also identify conflicts. The scoping process also identifies issues, and at times, conflicts. Additionally, one purpose of land use planning is to identify those areas where special management actions are needed to protect important resource values. Federal agencies are required to seek public opinion of what those resource values are, type of protection needed and the extent of that protection. Section 101 (a) of NEPA requires agencies to: ...(2) "assure for all Americans safe, healthful, productive, and esthetically and culturally pleasing surroundings; (3) attain the widest range of beneficial

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of controversy and "resolve" those issues has instituted an area of perpetual "compromise". Such abuse of the NEPA process has effectively encumbered many oil and gas operations, cost the American taxpayers millions each year and severely undermined the ability of federal agencies to accomplish Congressional mandates for multiple-use land management.

7 NEPA, Section 101.(a) Federal Government Responsibility states:

"The Congress...declares it the continuing policy of the Federal Government...to use all practicable means and measures, including financial and technical assistance...to create and maintain conditions under which man and nature can exist in productive harmony, and fulfill the social, economic and other requirements of present and future generations of Americans. (42 U.S.C. 4431) (emphasis added)

Section 102., Consideration of Environmental Impacts, directs

"...all agencies of the Federal Government shall--

(A) utilize a systematic, interdisciplinary approach which will insure the integrated use of the natural and social science and the environmental design arts in planning and in decision making which may have an impact on man's environment;"

(c) include in every recommendation or report...on proposals...and other major federal actions significantly affecting the quality of the human environment, a detailed statement by the responsible official on--

(iv) the relationship between local short-term uses of man's environment and the maintenance and enhancement of long-term productivity....."

Over the last one-hundred years, shared and responsible multiple-use of the state's natural resources has made Wyoming a strong, healthy state. Stability and/or growth of diverse resource elements and responsible industries are pivotal to Wyoming's socio-economic and environmental welfare.

Retail trade and service-based industries, school funding, state and county governments prosper and suffer in concert with the health of oil and gas and other important industries. While recreation, wildlife and tourism are important contributors, they cannot replace the enormous employment and tax contributions of a viable oil and gas industry. The "either/or" management approach presumes that the employment, values and contributions of these industries are interchangeable. In reality, tax collections and distributions for each segment differ greatly--and minerals remain the strength of the state's infrastructure.

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8 PROPERTY TAXES: For the fiscal year 1993, the oil and gas industry (production plus equipment) accounts for nearly 43% of the state's total taxable valuation. The oil and gas industry's share of property assessed for taxation in GRRA counties is substantial:

Fremont.....59.73% Lincoln.....50.62% Sublette.....87.72%
Sweetwater...34.45% Uinta.....88.54%

These property taxes support county, city, town and state governments, school districts, community college districts, recreation districts, fire protection districts, water and sewer districts, hospital districts and cemetery districts.

STATE SEVERANCE TAXES: A state severance tax on oil and gas production is distributed to the state's General Fund, Permanent Wyoming Mineral Trust Fund, Budget Reserve Account, cities, towns and counties, the Highway Fund, Water Development Accounts I & II, School Foundation Program and community colleges.

FEDERAL ROYALTIES: Fifty percent of all federal royalties are distributed to the Highway Fund, School Foundation Program, University of Wyoming, cities and towns, Capital Construction Account for Cities and Towns, Capital Construction Account for School Districts, and State-County Road Construction Program.

SALES & USE TAXES, EMPLOYMENT & PERSONAL TAXES

In addition to sales & use taxes, rental payments, etc., the personal taxes of petroleum and support industry employees also account for an important proportion of the state's tax base and socio-economic well being.

Given the importance of the GRRA to the state's and nation's energy future, and the welfare of Wyoming's citizenry, PAW believes the agency would be remiss to diminish or merely "maintain", rather than "enhance" opportunities for oil and gas exploration, development and transportation.

9 The agency should reevaluate the RMP/DEIS page-by-page, line-by-line and correct misinformation, negative verbiage and misleading conjectures which can not be substantiated through reliable documentation. Site-specific examples of why changes from current management are necessary and desirable should be presented along with reliable documentation that conflicts, both real and perceived, are not resolvable through means other than greater restrictions or additional withdrawals. We have identified the following issues to be worthy of greater consideration in formulating more equitable, progressive and defensible alternatives.

uses of the environment **without degradation, risk to health or safety, or undesirable and unintended consequences;** (4) preserve important historic, cultural, and **natural** aspects of our natural heritage, and maintain, wherever possible, an environment which supports diversity, and variety of individual choice." (emphasis added).... Henceforth, the need for identification and implementation of protective measures such as use closures or protective mitigation is a function of land use planning.

Congressional mandate for multiple-use management requires the BLM to balance the wishes of different management philosophies. No one philosophy can or should prevail above all others.

28-7 We agree that the oil and gas industry is important to Wyoming and that public lands are important to the welfare of the industry. This plan provides for the orderly development of our mineral resources and is developed under the spirit of multiple use management. The BLM has no mandate to develop one resource over the detriment of another resource. This is a balanced plan that allows for continued development of our mineral wealth.

28-8 Yes, the oil and gas industry's tax valuation to Wyoming and counties in the Green River Resource Area is substantial and important. Just during the period of the writing of the RMP (1988-1994), natural gas exploration and development on public lands in the Resource Area expanded dramatically. Given the reality that BLM has processed increasingly record numbers of permits for applications to drill while at the same time meeting environmental laws and policy could be interpreted that in fact the Agency has "enhanced" opportunities and aided the state and county economies as opposed to "maintained" or "diminished" them. All development scenarios and forecasts indicate that the demand for exploration and development of natural gas resources will continue to increase in the long term.

During this same period of natural gas industry expansion, the state of Wyoming and all counties and cities in Wyoming have made efforts at diversifying their economies so as not to be totally dependant upon one single industry. One purpose of those efforts is to break the "boom and bust" cycle that has been reflective of Wyoming's economy. As those economic diversification efforts involve public lands, BLM must also be responsive to the needs of those constituents. Balancing the needs of individual and sometimes competitive industries, geo-political entities, and the laws of the United States is a never ending challenge.

28-9 Modifications and clarification have been provided in the RMP Final EIS.



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Page 6**10 CHAPTER 1 - PURPOSE OF AND NEED FOR THE PLANNING EFFORT**

The introductory section of the RMP/DEIS charts a course of misdirection for the agency in both spirit and intent. This is best illustrated in the first paragraph (Pg. 5) which states: "Each alternative also considers the land use plans of local and state governments and other federal agencies in and around the Green River Resource Area to assure that the approved RMP will be compatible with them". (emphasis added)

To assure compatibility with programs and policies of single purpose agencies would compromise agency responsibility to carry out Congressional mandates for multiple-use management of federal lands.

43 CFR 1610.3-1 specifically states that other plans will be "considered" but does not require "compatibility":

"...the objectives of coordination are for the State Director and District and Area Managers to keep apprised of non-Bureau of Land Management plans; assure that consideration is given to those plans that are germane in development of resource management plans for public lands; assist in resolving, to the extent practicable, inconsistencies between Federal and non-Federal government plans and provide for meaningful public involvement...." (emphasis added)

43 CFR 1610.3-2, Consistency requirements, further states:

"(a) Guidance and resource management plans...shall be consistent with officially approved...resource related, plans, and policies and programs therein, of Federal agencies, State and local governments and Indian tribes, so long as the guidance and resource management plans are also consistent with the purposes, policies and programs of Federal laws and regulations applicable to public lands..." (emphasis added)

The RMP/DEIS (pg. 5) cites, "This effort is directed at identifying needed changes in the 1981 Management Framework Plans (MFP's) now covering the area because of policy and management changes that have occurred since that time." Also listed are standards for future modifications to the new RMP-- changing demands on public lands and resources; changes in land and resource conditions; and, acquisition to new information. Application of all the aforementioned have not been adequately explained (eg. policy and management changes) or applied to this planning effort.

- 11** Federal agencies continue to tout "changes in public values" as the impetus for modifying management of various public resource uses. The vast majority of American society is one generation further removed from the farm and other land-based businesses. Consequently, the well-intentioned public who propel "issue driven management" are often



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oblivious to the integral role public lands play in providing domestic food, fibre and energy in affordable abundance.

- 12** The presentation and application of new and better information is lacking throughout the document. Successful reclamation, advanced exploration technology, contributions to cultural resource and historic knowledge, beneficial uses of produced water, and progressive agency management of the last ten years are notable. Numerous examples of wildlife, aesthetics, recreation and mineral production occurring harmoniously and simultaneously, were deserving of discussion and greater consideration in formulating alternatives.

- 13** Allegations of rangeland, watershed or wildlife habitat degradation should be cited on a site or area-specific basis and supported with appropriate documentation which fairly considers all contributing factors including wildlife, wild horses, changing management concepts, weather and geology.

Names of creeks throughout the GRRRA-- Little Sandy, Big Sandy, Killpecker, Bitter, Salt Wells, Red, Alkali and Sweetwater-- are testimony to the fact that area streams have historically been of varying volume and quality. The oil and gas industry operates under statutes, rules and regulations which dictate perimeters for project location, require water quality testing, monitoring and reporting and set criteria for reinjection or discharge of produced water. The quality of produced water associated with mineral production is sometimes superior to natural stream flows.

14 PLANNING ISSUES AND PLANNING CRITERIA

Five issues were identified (pg. 9) through public scoping of existing management in the Green River RMP planning area. The text states, "Planning issues...are usually expressed in terms of the affects that some land and resource uses have on other land and resource uses or resource values." In Issue 1, "Special attention" is very selectively directed at "mineral development and transportation network conflicts with other land and resource uses and values."

- 15** Throughout scoping, PAW and other resource users have expressed deep concern over the effects current GRRRA wildlife, recreation, cultural resource management programs and special management designations have on other public-land dependent businesses. While the impacts of oil and gas development on these other uses must be considered, the reverse is appropriate as well. Contrary to the uncertainty of regulating recreation and other uses, the Bureau has the ability to effectively stipulate, mitigate and monitor minerals activities. Accordingly, a wide range of mitigation measures utilized to avoid or minimize identified impacts on oil and gas development should be presented.

Comment Responses

28-10 Clarification has been provided in the RMP Final EIS. Local and state plans were considered early on in the planning process. We feel that to the extent practicable, we are consistent with those plans.

28-11 Thank you for your comments and concerns.

28-12 Thank you for your comment.

28-13 We agree and do this at the activity planning level.

28-14 These issues were developed by going out to the public which included industry, environmental groups, the general public, other agencies, etc.

28-15 Thank you for your comment.

28-16 Native wildlife are endemic to the area and are therefore not considered a consumptive user. Human-generated activities do constitute a consumptive use on the public land.



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- 16 Consumptive uses identified in Issue 3, include: "livestock grazing; timber harvest; off-road vehicle use; and vegetation removal by mineral development, rights-of-way construction, and other surface disturbing activities". Why is wildlife grazing not considered a "consumptive use"?
- 17 The DEIS should have been utilized as an opportunity to review wildlife populations and to consider wildlife impacts on energy activities and opportunities, resource values and multiple use management. Wildlife populations which transcend habitat carrying capacity often force management trade-offs and result in the application of excessively severe restrictions. What WGFD management techniques are being incorporated to attain desired herd sizes? We request the BLM incorporate documentation and discussion of historic game numbers, current game population objectives, and an explanation of WGFD/USFWS accountability for wildlife impacts to vegetative cover, riparian areas, soil and stream stabilization, maintenance, degradation and/or enhancement of habitat.
- 18 Wildlife and environmental restrictions, including no surface occupancy (NSO), should be carefully scrutinized to determine whether or not they are factually justifiable. Complete documentation must be provided for all proposed stipulations. Applied stipulations must be the least restrictive option that will afford sufficient protection of the resource.
- VISUAL RESOURCES**
- 19 The notion that the public will not tolerate the presence of well maintained oil and gas operations is, for the most part, biased, unfounded, and given too much credence in planning. It should be reflected in reporting and decision making that oil and gas activities which might be considered visually obtrusive are most often temporary in nature. Natural settings and visual experiences can be maintained through encouragement of aesthetically pleasant, unobtrusive operations. We recognize the need to honor scenic resources, but visual quality protection must not be achieved through the creation of buffer zones.
- 20 Categorizing the eastern portion of the Sand Dunes ACEC as Visual Resource Management (VRM) Class II, seems to support the acceptance of oil and gas operation visuals. Obviously, the eighteen producing wells has not spoiled the visual integrity of the area.
- 21 South Pass Historic Landscape visual restrictions (pg. 149) of the Lander Cutoff 1-mile buffer and the Oregon Trail 3-mile buffer transcend law and reason. Such excessive proposals have the potential to not only restrict, but render totally infeasible necessary energy operations. Considering South Pass rights-of-way and activities of the past, as well as proven reclamation abilities of the present, we consider these proposed buffers to be unjustifiably excessive and counter to the best interest of the majority of the public.

Comment Responses

28-17 CEQ regulations state that the effects of actions on the natural environment must be determined. Wildlife is part of the natural environment. The State is responsible for the management of game and they regulate herds through harvesting by setting seasons and classification of wildlife (game, nongame, or predator). BLM is responsible for managing habitat, not wildlife numbers.

Information on historic game populations and current population objectives is on file in the MSA. Monitoring is being conducted to determine the effects to vegetative cover, riparian areas, etc., by any activity. This information will be used in site specific documentation of actions.

28-18 Wildlife and environmental restrictions, including NSO stipulations, are carefully applied. Appropriate stipulations are applied to protect the resources regardless if the activity is oil and gas, recreation, livestock grazing improvements, etc.

28-19 The purpose for VRM classification is to protect the visual resources. With the exception of South Pass Historic Landscape, the GRRA VRM classifications have standards that allow for development. We agree that natural settings and visual experiences sometimes can be maintained through well designed facilities in high quality scenic areas.

28-20 See response to comment 27-22.

28-21 There are few resources that have the national significance that the South Pass Landscape has. The South Pass Historic Landscape is in a climatic regime and has soils and vegetation that make reclamation more difficult there than in most other places in the Resource Area. Indeed, the continued existence of the Oregon Trail corridor through this area is evidence of how difficult it would be to restore disturbances in this area.

Furthermore, the BLM believes that the configuration of the South Pass Historic Landscape using the computerized vista analysis to define areas where development would be allowed will allow preservation of the visual integrity of the South Pass Historic Landscape while still allowing some level of energy development.

28-22 See response to comment 27-23.

28-23 The cultural site (rock art sites) buffer zone was set up to protect the spiritual significance for Native Americans and protect these values. The wild horse viewing area was proposed to provide the public with the opportunity to view horses in their free-roaming state. This fully complies with the Bureau multiple-use mission. The Bureau needs to work closely with industry and improve design techniques for facilities located in high quality scenic areas.

28-24 Documentation of relevance and importance criteria has been provided in the RMP Final EIS.

28-25 See responses to comments 27-17 and 27-18.

28-26 Special management designations provide documentation of relevance and importance criteria that provide the decisionmaker with criteria that need to be addressed before an action can take place. Any action must address the protection of the values that warranted special designation. Actions may take longer to review due to increased workloads from all sectors, not just management of ACECs.

28-27 In some cases there may be increased costs. Surfacing roads into wildcat well locations is not required unless the well is a producer. See response to comment 27-24.



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- 22 PAW also opposes 1/2 mile buffer zone proposals around the five known rock art sites. Since there is no proof that oil and gas activities in these areas would actually jeopardize visual integrity, Controlled Surface Use (CSU) stipulations would be more appropriate.
- 23 We are confident that industry will pursue reasonable measures to be visually compatible in most viewsheds. However, modification of VRM classes to enhance "cultural, wild horse viewing..." (pg. 57) is ludicrous. Furthermore, the BLM should weigh carefully the value of diverting precious agency/industry time and dollars to visual quality improvement of existing oil fields at this time.
- 24 **AREAS OF CRITICAL ENVIRONMENTAL CONCERN (ACEC)**
The GRRA is very ambitious in proposing six new ACECs. These proposals however, are not accompanied by environmental documentation to support qualifications for designation. Such immense designations will surely intensify the complexities of agency/industry efforts. We believe continuation of current management is desirable and will continue to provide adequate protection to area resources.
- 25 Not surprisingly, many of the proposed ACECs have significant potential for oil and gas development. There are 60 existing leases in the proposed Steamboat Mountain area, and expressed interest in producing oil and gas in the western ACEC. Recommendations to defer further leasing until site-specific leasing plans have been completed appear to be strategic roadblocks. Current Creek and Sage Creek areas of the Tri-State Monument ACEC also have high potential for hydrocarbon occurrences. With a more moderate production potential, the Red Creek portion is a pivotal passage for rights-of-way to southern fields.
- 26 Along with special designations come increased management costs and responsibilities. Since money and manpower seem to be in short supply, how can the agency staff and financially support more special designations?
- 27 **ROAD CONSTRUCTION STANDARDS**
A shift from long-standing BLM Road Construction Policy poses significant concerns for the oil and gas industry. Recent interpretation of a State Office information bulletin on permanent road construction practices, standards, and approval processes, combined with RMP/DIES proposals (pg. 178), are too inclusive and punitive. Consequently, all roads constructed on public lands by the oil and gas industry, whether temporary or permanent, regardless of purpose, surface conditions or limited access must, at a minimum, meet unreasonably high standards. The result is that as much as an additional \$200,000 can be spent building a road to a wildcat location that will have to be totally destroyed and reclaimed in sixty days. It is most often not prudent or environmentally advantageous to universally adopt or enforce standards which should be considered on



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Page 10**28 CULTURAL RESOURCES**

Inconsistency in cultural policy interpretation continues to dictate high-cost survey, research and preservation costs. Often more extensive surveys are required when briefer surveys would meet full requirements of historic preservation law. It is not uncommon for an operator to spend thousands of dollars on surveys and data collection that do little to increase knowledge or protect cultural resources. Data collected to date has not been synthesized by state or federal agencies to determine its value or commonality. Therefore, most historical objects and sites, regardless of quality or quantity (countless lithic scatters, fire pits, tepee rings, etc.) are considered "significant sites" and treated as such in the management scheme. Companies often bear the cost of cultural surveys, cultural mitigation, testing and data recovery on existing roads used by the general public, as well as for new pipelines within existing utility corridors. The cost of intensive field inventories on non-federal lands and split-estate lands, which have been previously inventoried or disturbed, continues to take an economic toll on the oil and gas industry.

GEOPHYSICAL OPERATIONS**29** Under the Preferred Alternative, Environmental consequences (pg. 500 and 503):

"The cost of geophysical activities would be increased, with some activities being limited to certain times of the year or displaced from areas of conflict with other resource values. In some parts of the planning area, restriction would limit the amount of seismic that can be performed so that complete analysis of the potential resource would not be available before drilling activity occurs. Impacts to geophysical activities would generally be increased over the present situation (Alternative A)."

"Areas closed to geophysical activity result in a loss of data through the long term, and would be considered an unavoidable adverse impact. Increased costs for mitigation would affect operation in both the short and long term...More areas would be closed to vehicle use and limited to designated roads and trails ...and affects would be greater than Alternative A."

Geophysical operation have been increasingly burdened with untimely delays and overwhelming project costs associated with excessive cultural resource and wildlife concerns. Preferred alternative plans to further restrict access and impose greater restrictions are unfairly punitive and totally unwarranted.

Although reduction of geophysical actions can be attributed, in part, to various market factors involving the price of oil and gas, there is no doubt that current restrictions have severely affected activity. In 1991, despite covering only 60 miles of federal land, one company spent \$64,000 for archaeological studies, an average of over \$1000 per mile. These costs continue to escalate yearly.



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30 On another recent client project, archeological studies averaged more the \$500 per mile on a job which cost less the \$5,000 per mile to acquire. This ten percent of the exploration dollar could be the deciding factor which determines whether or not some of the few remaining contractors are able to continue operations.

There is little comfort in the Preferred Alternative, Off-Road Vehicle Management assurance that (pg.164) "Some types of motor vehicle travel would be allowed under the "necessary tasks" work exemption provided resource damage did not occur. Examples of necessary tasks include...geophysical activities associated with oil and gas exploration." Caveats are attached to most provisions for accommodating geophysical activities.

31 Candidate plant species management proposes that "searches would be conducted and avoidance would be designated prior to geophysical activity..." (pg. 493). Is this another "cost of doing business" which is expected to fall on the shoulders of industry?

32 Following an extensive list of potential impacts which could cause "an irreversible irretrievable loss of plant populations," the Proposed Alternative narrows down to three, one of them being geophysical, the activities upon which restrictions "to reduce the level of impacts" would be imposed (pg 493).

"Closing 34,902 acres to geophysical vehicles and explosive charges would protect significant cultural sites from destruction and associated erosion." Prior to knowing the details of operations and mitigation how can destruction and erosion be absolutely predicted?

33 Despite the transient nature of geophysical operations, the RMP/DEIS addresses seismic activities as visually intrusive. A full accounting of why such temporary actions would be considered an adverse impact should be offered.

Alternative provisions to limit off-road vehicle travel to "existing" and often only "designated" roads and trails, should exempt geophysical operations for case-by-case consideration.

Geophysical operation should not be treated similar to other casual off-road uses which are not permitted and are not required to comply with high-cost, time-consuming surveys, studies, and reclamation. Nor should most seismic activities be considered surface disturbing when, in fact, their impacts are no greater than other allowed non-permitted uses.

34 PAW requests that the RMP/FEIS incorporate a clear accounting of how seismic operations differ from casual off-road use, how industry actions will be facilitated, what constitutes "surface disturbance" and how mitigation requirements will be more uniformly

Comment Responses

28-28 The BLM recognizes and sympathizes with industrial developers regarding some of the issues raised in this comment. The Preferred Alternative does propose to target four areas of high fluid mineral development where data synthesis would be the focus of historic preservation efforts which, if completed, would reduce required inventories.

We agree that better historic preservation planning is needed. We would point out that the development of Statewide plans is delegated to the State Historic Preservation Office according to the National Historic Preservation Act. The BLM is required to consult with the SHPO on the need for information prior to even entering into consultations concerning the eligibility and effects to any historic properties that may be within the area of potential effect of any Federal undertaking. Furthermore, there are no time frames for the SHPO to respond to our initiation of consultation concerning information needs. Many times in this Resource Area we have advised industry that an "on the ground" level inventory may not be necessary, but that the law requires us to consult with SHPO before making that determination. In most cases, industry was more inclined to spend the money to do the inventory than to wait the time to see if the undertaking could be permitted without further inventory.

Recently, Wyoming BLM was chosen to develop a pilot program for handling Section 106 compliance with the SHPO and the Advisory Council.

28-29 Thank you for your comment. Please see text revisions. The geophysical policy has been revised. This Final EIS addresses some of your concerns. See response to comment 27-9.

28-30 See responses to comments 27-9 and 28-29.

28-31 Yes, searches would be conducted and avoidance would be designated prior to geophysical activity, if candidate plant species were in the area. In some cases BLM pays for the survey and in some cases the applicant will be required to pay depending on timing and location of the proposed activity. We are prioritizing surveys in areas of the greatest immediacy of development. In the meantime, BLM personnel will conduct surveys for Candidate plants on potential habitat as the workload allows.

28-32 Personnel within this office are knowledgeable of operation and mitigation practices of geophysical companies. Actually, less than 1,000 acres of significant cultural sites are proposed for protection by closing them to geophysical vehicles and explosive charges. These few sites are felt to be so susceptible to damage that disturbance or vibrations in their vicinity could irreparably damage them. Closure to geophysical vehicles was proposed as a means to protect these sites. During study of the management situation, preparation of this draft environmental impact statement, and review of the comments on this draft, no alternative mitigation has been proposed to protect these values.

28-33 Aerial monitoring of the Green River Resource Area reveals hundreds of old seismic lines that are still visible and have caused an adverse impact. Bladed lines are most prevalent. Most of these are decades old. The elements of the natural features of the landscape have been changed by this activity. The straight lines and the change in vegetation is most noticeable. Even though seismic operations have changed and exploration is no longer done by blading, vegetation compaction and erosion still occurs. Additionally, new roads are created when the public starts to drive on these lines. See also response to comment 27-9.



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applied to all similar-impact uses. The appropriateness of requiring Class III inventories for seismic operations must be completely and thoroughly substantiated. Class III inventories, if deemed necessary should not be required beyond the immediate "area of effect" of proposed operations.

We encourage the BLM to continue working closely with seismic operators in coordinating winter and special area operations.

HAZARDOUS WASTES

- 35** PAW concurs with the comments of Robert Anderson, which state:

"In several instances, the DEIS mentions hazardous wastes in conjunction with oil/gas exploration and development activities...on-lease oil/gas exploration wastes are specifically excluded under the Resource Conservation and Recovery Act (RCRA) and, therefore, ARE NOT classified as "hazardous"...Consequently, the reference to hazardous wastes on pages 129, 495 and 515 should be deleted accordingly."

"The oil and gas industry, perhaps more than any other user of public lands, is very sensitive to the hazardous waste issue and, ...are very careful to ensure that their operations are conducted in an environmentally acceptable manner and in full compliance with applicable law...strict record keeping...in conjunction with the stiff penalties prescribed under RCRA...the Comprehensive Environmental Response Compensation and Liability Act (CERCLA)...fully comply with existing rules and regulations governing the generation, use and storage of hazardous materials on or off lease."

- 36** The RMP/FEIS must not include incorrect assertions that RCRA exempt production wastes are "hazardous". Similar allegations (pg. 515) that, "The emphasis of the minerals program is the largest, most obvious impact to the water and soil resources...sedimentation, soil contamination, salt and phosphate loading, groundwater contamination, bank channel instability, loss of aquifers, retort leachate production, augmented flows, and water disposal," should be removed or proved.

- 37** The agency should clarify the statement (pg. 515), "Soil contamination from drilling fluids and accompanying chemicals for production drilling continue to threaten area soils. Unlined reserve pits offer no protection from contamination to surrounding soils. Burying drilling muds in reserve pits has the potential of limiting soil development and fertility..."

This statement misleads the public into believing that threats to soil development and fertility occur any time a pit is used for oil/gas activities. The bureau should readdress this section and describe how proper disposal practices, prescribed and overseen by the



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bureau, can place drilling fluid constituents at depths sufficient to prevent adverse effect to the productive horizons of the soil structure. Further, the bureau should include research data, such as done by McFarland at Texas A&M University that show upward migration of drilling fluid constituents is limited and that proper placement of drilling fluids will avoid soil contamination. The document should not infer that simply because the soil has been contaminated by contact with drilling fluids that adverse human health and/or environmental effects will occur in all instances.

Oil and gas operators have repeatedly proved their ability to conduct environmentally sound operations in even the most sensitive environments.

- 38** These are critical times for the American people—a time when federal agencies and resource providers can ill-afford any increase in the cost of doing business. Likewise, until state and federal agencies, travel, recreation, and wildlife industries, along with every citizen of Wyoming, assume tax responsibilities currently shouldered by minerals, the GRRRA should do everything in its power to administer a minerals program which will enhance opportunities for oil and gas development.

- 39** Premised upon the preceding, we encourage the Bureau of Land Management to reconsider the highly restrictive and largely unsubstantiated management decisions proposed in the RMP/DEIS preferred alternative. In very few places (including discussion and comparison of alternatives) does the document present data to justify the BLM's unwillingness to facilitate, encourage and administer a more dynamic minerals program. Biased management decisions which defy science, technology and resource management capabilities give undue credence to the notion that oil and gas operations pose a greater threat to public land resources than most other allowed uses. Consequently, the viability of Wyoming's oil and gas industry continues to erode along with the socio-economic welfare of Wyoming's citizens and governments.

Sincerely,

Cheryl M. Feraud

cc. Elmer Parson
John Kaluchich
Bob Anderson
Alice Benitez
Claire Moseley

Comment Responses

28-34 See response to comment 27-9. Geophysical operations may be, and usually are, authorized off-road in an area classified as ORV Limited after a Notice of Intent is processed; casual ORV use is not authorized under that designation. Surface disturbance is defined in the Glossary. Mitigation requirements will be more uniformly applied by consolidating those requirements in this RMP, then using this RMP as a guide for application of those requirements to all surface disturbing activities.

The level of disturbance is not the operative issue which brings geophysical operations under the jurisdiction of the National Historic Preservation Act. Approval of Notices of Intent for geophysical operations constitutes a Federal undertaking which requires that the BLM comply with the National Historic Preservation Act (NHPA). Casual use is not a Federal undertaking because it does not require a Federal authorization.

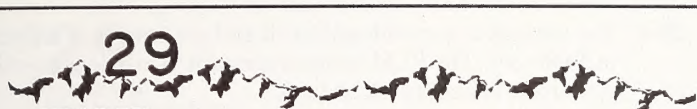
28-35 BLM appreciates that exemptions have been given to certain wastes generated by the oil and gas industry as stipulated in the Resource Conservation and Recovery Act of 1976 and the Comprehensive Environmental Response, Compensation and Liability Act of 1980. These exemptions are on file in BLM offices.

28-36 See response to comment 28-35. The statement on p. 515 was amended: "The development of minerals and related surface disturbance has the largest and most obvious impact to water and soil resources. Potential impacts from operations involving the minerals program include stream sedimentation, soil contamination, salt and phosphate loading, groundwater contamination, streambank and channel instability, changes in aquifers, augmented water flows, and water disposal problems."

28-37 The statement on p. 515 has been changed to read: Drilling fluids and accompanying chemicals for production drilling may cause contamination of local areas of soil. Oil-based drilling muds can contain benzene or other hazardous chemicals. Unlined reserve pits may allow migration of these pit fluids into nearby soil. Proper disposal practices, following current BLM guidelines, can usually place drilling fluid constituents at depths sufficient to prevent adverse effects to the surface soil horizons.

28-38 Thank you for your comments.

28-39 Thank you for your interest in public lands and the management of oil and gas. Many of the comments are incorporated in the final document.



29

IPAMS

Independent Petroleum Association of Mountain States

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16 April 1993

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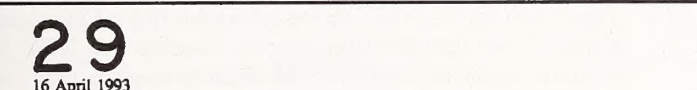
Dear Ms. Dana:

The Independent Petroleum Association of Mountain States (IPAMS) is a non-profit, non-partisan trade association representing the interests of independent oil and natural gas producers, royalty owners, industry consultants, and service/supply companies operating in a ten-state Rocky Mountain area: New Mexico, Wyoming, Colorado, Montana, North Dakota, Utah, Nebraska, South Dakota, Nevada, and Arizona.

IPAMS submits these comments in response to the Draft Resource Management Plan and Environmental Impact Statement for the Green River Resource Area.

The State of the Oil and Gas Industry

1 The domestic oil and natural gas industry is in a state of crisis. The U.S. rig count is at a forty-year low. The rig count in the Rockies the week of April 12 numbered 57. The Wyoming count reached a historic low of 9 with 31 in Colorado, 7 in North Dakota, and 4 in Utah. The major oil and gas companies are leaving the U.S. to develop resources abroad, due largely to unreasonable and burdensome regulations. The independent companies that are left have survived the lean times; they are the future of the domestic oil and gas industry. Independents maintain low overhead costs and are therefore able to economically pursue domestic reserves. Independents drill about 85 percent of all domestic wells – both



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Page 2

exploratory and development, onshore and offshore. They produce approximately 35 percent of all U.S. crude oil and 60 percent of all natural gas and find nearly 70 percent of all new oil and gas reserves in the United States.

2 The Rocky Mountain region is rich in proven and unproven natural gas and crude oil reserves. The Rockies contain more natural gas than Texas and the Gulf Coast area combined. The key to developing this potential is reasonable access to federal lands. A Department of Energy panel of oil experts estimates there are between 99 and 204 billion barrels of undeveloped crude that lie largely in undiscovered formations and existing fields. In addition, the Department of Energy's Energy Information Administration (EIA) predicts that U.S. petroleum demand could reach 17.5 million b/d in 1994. EIA notes that in 1993 oil demand will increase 320,00 b/d up 1.9 percent from 1992 levels. The report also indicates that U.S. petroleum production will decrease by 220,000 b/d in 1993 and another 150,000 b/d in 1994. As a result, EIA expects net petroleum imports of 7.9 million b/d in 1994. While the potential for domestic oil and natural gas development exists here in the Rocky Mountain states, the reality is that access to public lands is becoming increasingly difficult. IPAMS firmly believes that the United States must make a strong effort to develop its oil and natural gas resources.

Greater Green River Basin Reserves

The greater Green River Basin of Wyoming contains approximately 85 percent of the State's gas reserves. A study, recently completed by the Casper, Wyoming geological firm of Barlow & Haun, forecasts Wyoming gas production to increase from the current high of 1 tcf to 2 tcf by the year 2000. Again, the most important factor in this possible increase in natural gas production is reasonable access to federal lands. IPAMS believes that the Green River Resource Area can provide a substantial percentage of the natural gas produced in Wyoming. The economic benefits to this development are obvious: royalties to the federal and state governments; high paying jobs for well pumpers, roughnecks, rig hands, truck drivers, geologists, engineers, accountants and managers; and taxes paid to local governments.

The Preferred Alternative

3 IPAMS strongly objects to the amount of acreage that the BLM has placed virtually off-limits to oil and gas leasing. The BLM administers 3,635,000 acres of federal land surface and 3,581,000 acres of federal mineral estate.

Comment Responses

29-1 Thank you for your comment.

29-2 See response to comment 63-1.

29-3 In the preferred alternative, of the 3,581,000 acres of federal minerals, 337,510 acres are proposed to be closed to oil and gas leasing. This amounts to only 9.4% of the total. Of the 337,510 acres, 242,240 acres are nondiscretionary closures (WSAs and incorporated cities and towns). Please see the Proposed Plan in this RMP Final EIS for updated figures.

No Leasing and Stipulations

The preferred alternative subjects 337,510 acres to no leasing. Some of the areas are: incorporated cities and towns 3,770 acres; the proposed Red Creek area of critical environmental concern (ACEC) 50,120 acres; Seedsdaade National Wildlife Refuge 13,360 acres; and the proposed Steamboat Mountain (ACEC) 43,010 acres.

No Surface Occupancy stipulations will be applied to 299,740 acres. Some examples of this are: candidate plant species potential habitat 36,550 acres; floodplains 94,660 acres; Red Creek on slopes greater than 25 percent and on sensitive soils 50,120 acres; and Greater Sand Dunes ACEC 23,900 acres.

Seasonal restrictions will be applied to 1,688,440 acres. Crucial antelope, deer, elk and moose winter range and raptor habitat make up the majority of this acreage. The seasonal restrictions will be effective from November 15 to April 30.

- 4 The preferred alternative subjects 2,325,690 acres to stipulations of no lease, no surface occupancy or seasonal restrictions. The remainder 1,309,310 acres is open to oil and gas leasing with standard lease terms and conditions. IPAMS believes that no surface occupancy stipulations really amount to no leasing. In effect, the BLM has banned oil and gas leasing on an additional 630,000 acres of the resource area, which includes 225,110 acres of wilderness study areas. In addition, oil and gas development can be stopped on 1,688,440 acres for nearly six months of the year. IPAMS objects to practically closing these areas to oil and gas leasing. IPAMS reminds the BLM that it is critical that the BLM remain a competitive lessor to facilitate the timely and prudent development of the oil and gas resource.

Particular Concerns

- 5 Specifically, IPAMS believes that the Red Creek ACEC, Steamboat Mountain ACEC, and the Greater Sand Dunes ACEC should remain open to oil and gas leasing under standard lease terms and conditions. Producing wells currently exist in these areas. These areas also contain some of the highest potential for continued development of oil and gas resources in the entire Green River Resource Area. The DEIS proposes to limit one well per section. Historically, wells have numbered three wells per section. IPAMS objects to the BLM making spacing decisions without analyzing reservoir drainage which would thereby inhibit the prudent and economical development of the oil and gas resource. IPAMS insists that the BLM conduct an economic analysis that would document the lost production from limiting development to one well per section.

- 6 Oil and gas development has occurred and can continue to occur in an environmentally sensitive manner in these areas. Standard operating procedures require roads and production facilities to be constructed to protect the environment. These procedures are described in BLM Road Standards and BLM Manual section 9113. BLM reclamation procedures require that roads and surface disturbing activities be recontoured and revegetated to their original condition. IPAMS believes that environmentally sensitive operations can occur in these particular areas with little or no negative impact to the land. IPAMS suggests adopting the stipulations set forth in Alternative B for the Red Creek, Steamboat Mountain, and Greater Sand Dunes ACEC's in order to accomplish these goals and allow development to occur.

Seasonal Stipulations

- 7 IPAMS maintains considerable concerns regarding the seasonal restrictions on big game winter range, raptor habitat and sage grouse nesting areas. The BLM has designated 46 percent of the resource area crucial winter range, raptor habitat, and other critical wildlife areas. IPAMS finds this to be an excessive amount of the resource area to be reserved strictly for wildlife for at least six months of the year.

IPAMS opposes the lengthy seasonal stipulations that run from November through April. To alleviate this concern, IPAMS recommends that the BLM adopt a seasonal stipulation of January 1 through March 15. This will allow wildlife the protection it needs during the harshest winter months, while enabling oil and gas development to occur unimpeded through more than just half of the year. IPAMS also believes that the BLM must work with the industry to allow exceptions and waivers to the seasonal stipulation in cases of mild winters, absence of the animals in a particular area, the health of the wildlife at that time, site location, and the timing of the project. IPAMS opposes the sage grouse nesting area of no activity within 1.75 miles from a lek. This stipulation is unwarranted and can be accommodated by simple practices in the field. IPAMS truly believes that oil and gas development and wildlife can coexist for the mutual benefit of both.

- 8 In addition, IPAMS retains serious concerns over the areas designated "candidate plant species potential habitat." Any area could qualify as potential habitat for a candidate plant species. IPAMS believes that the BLM should not be designating "potential habitat" based on mere speculation. IPAMS recommends examining an area for existing candidate species rather than stipulating the area no surface occupancy. Generally, these issues can be resolved with on the ground mitigation measures that avoid the destruction of the particular plant in a given area. Furthermore, the area the BLM has designated "candidate plant species potential habitat" contains high oil and gas potential. It would be tragic to allow no surface activity in an area where a candidate species fails to exist.

Comment Responses

- 29-4 The amount of acres closed to oil and gas leasing is reflected in Table 2-9. The BLM remains committed to balancing all its resources, including oil and gas.

- 29-5 Thank you for your advice on administration of these special management areas. Only the Greater Sand Dunes ACEC and Steamboat Mountain proposed ACEC contain producing wells and are entirely within areas with high potential for continued development. The Red Creek ACEC has no producing wells and has 35% high, 19% moderate, and 46% low potential for continued development. These three areas have been identified as containing resource values that are highly sensitive and fragile. Intensive oil and gas development permitted under standard lease terms and conditions would not protect them from serious degradation. See the ACEC guidelines in the Final EIS for additional interpretation of FLPMA and BLM responsibilities.

Only the Sand Dunes ACEC limits wells to one per section, and only in one part of the ACEC. This one well per section restriction is a surface restriction. Additional wells could be allowed to be drilled from one surface location to effectively drain any reservoir that may be found in this area. A Reasonable Foreseeable Development scenario was developed for the Sand Dunes area and is available as a reference document.

- 29-6 Thank you for your advice for administration of these areas proposed for special management. During the RMP EIS process, we have identified these areas as needing protection not afforded by your recommendation. This proposal applies restrictions to protect identified critical values. No additional information has been supplied during the comment period that would lead us to believe that some other form of protection would be more appropriate.

- 29-7 The BLM appreciates your comments concerning the amount of seasonal restrictions in the GRRA. The wildlife stipulations are based on the biological requirements of the species. In the appendix, criteria are outlined for determining if an exception should be granted or restrictions imposed. The purpose of this document is to provide the public with a concise plan that outlines how exceptions to stipulations are granted. In mild winters, exceptions are granted routinely. In fact, from 1986 to 1995 there were only two instances in the Green River Resource Area when a requested exception was not granted.

- 29-8 Potential habitat for Candidate plant species displays similar environmental characteristics (such as elevation, soil type, precipitation, associated species, slope, and aspect) as the known habitat. Resource professionals use vegetation and soil maps, personal knowledge of the area in question, and field reconnaissance to determine the validity of potential habitat. Approximately 4,520 acres with high potential for hydrocarbons are designated as potential habitat for Candidate plant species under the Preferred Alternative. Surveys performed on potential habitat for Candidate plants will determine their presence prior to surface disturbing activities. As potential habitat areas are surveyed, they will either be removed from protection (if no Candidate, Threatened or Endangered, or sensitive species are found) or protective stipulations for the area will be applied (if Candidate, Threatened or Endangered, or Sensitive species are found on site).

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Geophysical Operations and Private Ownership

- 9 The draft document fails to adequately address geophysical operations. Currently, as the document reads geophysical operations would be incompatible with the management objectives of the document. However, this is contradictory to the uses of off-road vehicles for the State of Wyoming. IPAMS insists that the document reflect that geophysical activity is a "necessary task" under the 43 CFR 3809 regulations.
- 10 IPAMS remains concerned that the BLM has failed to adequately work in concert with private landowners whose lands fall within the area of the Green River Resource Area. IPAMS believes that since such a large percentage of the area is under private ownership the BLM must cooperate with these entities to ensure that the management objectives of the Resource Area are achieved.

Conclusion

- 11 IPAMS believes that the Bureau of Land Management's preferred alternative provides unreasonable access to federal lands and will only serve to thwart continued oil and gas development in southwestern Wyoming. Moreover, IPAMS believes that reasonable solutions can be reached through cooperation and communication between the BLM and the oil and gas industry. IPAMS trusts that the BLM will give our concerns sufficient consideration. We appreciate the opportunity to comment and are always available to answer questions.

Sincerely,



Alexander Woodruff
Director of Regulatory Affairs

Comment Responses

- 29-9 See responses to comments 27-9, 28-33, and 28-34. Geophysical activities are addressed in the regulations at 43 CFR 3150. The regulations in 43 CFR 3809 apply to locatable minerals only.
- 29-10 The GRRA RMP is being developed to provide for management of only public lands within the boundaries of the resource area. We are aware of the concerns of private landowners and have continuously involved them in the planning process. During the initial stages on implementing the RMP, a scoping notice was sent to interested publics including private landowners asking them to express their concerns or identify issues. In addition, numerous open houses and meetings were held to hear various concerns. We agree that BLM must work cooperatively with private landowners to successfully implement this plan and will continue to work with these entities.
- 29-11 Thank you for your comment. The RMP was developed by a team of interdisciplinary staff specialists. This plan provides for the orderly development of our mineral resources balanced with other multiple uses. Over 90% of the resource area is opened for leasing of oil and gas which does not substantiate your claim that the plan provides unreasonable access to federal lands.

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ENRON Oil & Gas Company

1801 California Street, Suite 3400, Denver, Colorado 80202 (303) 293-2525

February 25, 1993

Ms. Renee Dana, Team leader
Bureau of Land Management
Rock Springs District
P. O. Box 1869
Rock Springs, WY 82902

RE: Draft Environmental Impact
Statement/Resource Management Plan
Green River Resource Area

Dear Ms. Dana:

Enron Oil & Gas Company has received the captioned Draft Environmental Impact Statement/Resource Management Plan prepared by the BLM for the Green River Resource Area (GRRA). Enron is one of the largest independent oil and gas companies in the United States. The GRRA is of considerable interest to Enron due to its high potential for oil and gas reserves; it has been the focus of extensive oil and gas development since the late 1940's. Evidence of Enron's interest is our East LaBarge Project, approved by the BLM early last year. This project will complete 37 new infill gas wells which are expected to increase Enron's gas recovery in the area by 58 billion cubic feet (BCF). The economic contribution of these 37 wells to the state and federal treasuries is equally significant. It is estimated that \$2.6 million will be generated in severance tax and that \$5.5 million will be paid in federal royalties, half of which are returned to the State of Wyoming. Obviously, the economic return on 1,268 to 2,385 wells (the number of wells projected by the BLM in the DEIS) will be exponentially comparable. According to the DEIS, the minimum cumulative output over the life of the plan expected from oil and gas production is estimated at more than one BILLION dollars.

GENERAL COMMENTS

The value of the federal oil and gas program is indisputable, as is the value of the goods and services derived from it. Natural resource production represents the foundation upon which the nation's economy is based. The fact that oil and gas resources are recovered with minimal short-term effects and negligible long-term effects on the environment is proof of the energy industry's commitment to working with federal and state agencies to design operations that meet the needs of other resource programs on public and state lands. Therefore, we are deeply concerned that the BLM proposes to arbitrarily increase constraints on oil and gas exploration and development activities, as proposed in the BLM's Preferred Alternative.

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Ms. Renee Dana, Team Leader
February 25, 1993
Page 2

Following are specific comments regarding elements of the DEIS/RMP we find objectionable. These comments are intended to provide the BLM with constructive criticism on how to better analyze and manage oil and gas exploration and development activities in the GRRRA.

II. FUNDAMENTAL CONCERNS REGARDING THE DEIS

1. Range of Alternatives

- 1 The range of alternatives considered by the BLM in the DEIS/RMP inadequate. The planning analysis is predicated upon a perceived need for highly restrictive management of oil and gas exploration and development activities. This is evidenced by the limited range of alternatives analyzed in detail. We appreciate the fact that the BLM eliminated from detailed study a "No Lease" alternative, due to legal and policy conflicts. However, there are no similar legal or regulatory constraints on the BLM's ability to study in detail an alternative which considers the effects of oil and gas leasing on the entire GRRRA, excluding legally withdrawn areas, with only the standard terms and conditions included on the federal lease form. Such an alternative is vital not only for analysis purposes. It would also provide the public with an distinct basis for comparison of the BLM's management objectives by alternative, not only in terms of related environmental consequences, but also in terms of BLM's authority to protect sensitive resource values without having to apply special stipulations and conditions.

The similarities among the current alternatives do not allow for adequate comparison. Of equal importance is that the limited range of alternatives fails to establish the foundation required to justify restrictions. However, an alternative which would impose only standard terms and conditions would help not only the public, but the BLM staff as well, to clearly understand what level of restriction is actually justifiable for a specific resource or a given area based upon rational, scientific analysis. Therefore, we strongly encourage the BLM to include such an alternative in the Final EIS so that the analysis needed to make defensible management decisions is done.

2. Necessity of Constraints

- 2 A related item of great concern to Enron is the BLM's failure to present any data which suggest a logical basis for the proposed increase in restrictions on oil and gas exploration and development activities. In some cases the information presented in the analysis demonstrates that increased restrictions are unnecessary. It has long been BLM policy to clearly show the necessity of constraints in all planning documents. Additionally, it must be shown that less restrictive measures were considered but deemed inadequate to protect the specific resource in question. The BLM's Supplemental Program Guidance for Fluid Minerals, Necessity of Constraints, Manual 1624, adopted on November 14, 1986, states:

"If closure or major operating constraint is discretionary with the Bureau, the supporting record should evidence that (1) less restrictive measures were considered but found inadequate to provide appropriate protection for other resource values which cannot share land use with fluid mineral development or be accommodated on other lands for the duration of possible land use for development and which are determined through the planning process to be deserving of protection, and (2) that lands are not closed solely because extraction by directional drilling from outside the area does not appear to be feasible."

The mere statement that there are potentially conflicting resource values or uses fails to constitute justification for imposing restrictions. Discussion of the specific requirements of a resource to be safeguarded, along with a discussion of the perceived conflicts between it and oil and gas activities, must be given. In addition, a detailed analysis of the various management options, including a comprehensive examination of less restrictive protective measures and why they will not provide adequate protection, must be a fundamental element of analysis.

- 3 For example, on Page 581 the BLM ostensibly examines the impacts to wildlife associated with oil and gas activities under Alternative B, the production alternative. It is stated, "Future oil and gas activities could impact approximately 283 raptor nests, 1,600 acres of sage grouse nesting habitat and cover, 15,625 acres of big game crucial winter range and 57 acres of riparian/wetland under the production alternative." No information is offered on how or why these species could be impacted, what the duration of the potential impacts would be and whether the impacts would be of such a magnitude to cause irreparable harm.

It is further stated in this section that actual wildlife habitat lost over the next 20 years due to oil and gas development would likely amount to a total of 31,032 acres throughout the GRRRA; an impact of less than 1 percent of the total land base under study. The relative magnitude of impact to wildlife if this alternative were adopted is ignored. No perspective is offered and the public is left to assume the worst.

- 4 These are merely a few examples of where the BLM has failed to analyze or document the need for restrictions. The entire DEIS/RMP fails to comply with the requirements delineated in the Supplemental Program Guidance for Fluid Minerals in BLM's 1624 Manual. We strongly recommend the BLM consider a major rewrite of the planning document before adopting a final analysis.

Comment Responses

30-1 See responses to comment letter 27.

30-2 See responses to comments 27-1 and 27-8. We do not feel that many of these measures are an increase over what is currently applied, rather this information has not been accumulated in one public document previously. We also feel that these measures are warranted and should be applied at the leasing stage to make all parties aware of the terms and conditions of the lease prior to lease acceptance.

This document tends to be programmatic in nature. However, site specific analysis will occur at the site specific APD stage and analysis will determine if exception, modification, and waiver should be considered. Criteria for exception, modification, and waivers can be found in the Appendix sections of the RMP Final EIS. Site specific review and applicable mitigation is applied to all activities, not just oil and gas. The document may appear to single out mineral uses, but this is not the intent; however, this is a requirement of the SPG for mineral management.

30-3 Alternative B is the production scenario, which results in the most potential impacts to wildlife habitat. Impact analysis from this alternative included actual habitat loss as well as displacement from adjacent disturbances. It is well documented that some wildlife species acclimate to some level of continual disturbance. It is also documented that new activity within or adjacent to undisturbed habitat can cause long-term displacement and such things as raptor or sage grouse nest abandonment. One purpose of site specific analysis is to determine which impacts may occur. See Appendix 13 in this Final EIS.

30-4 We appreciate your comment. The RMP as written did follow BLM supplemental guidance. Fluid mineral resource related determinations have been made using available minerals related data and required factors. As part of this analysis, the need for restrictions was reviewed and is discussed. Please understand that this EIS is not intended to completely document all data compiled and analyzed. Much material, of necessity, must remain in Resource Area Description, Reasonable Foreseeable Development, and Management Situation Analysis documents. This EIS has used this extensive documentation. A major rewrite of this document is not required.

3. Conditions of Approval (COA)

- 5 In Appendix 7-1, Page 7-11, Procedures for Oil and Gas Application Processing in Areas of Seasonal Restriction, the BLM notes, "In seasonally crucial wildlife habitat, the approved APD will generally include a seasonal COA because the APD is valid for one year and field conditions during the crucial period cannot be predicted." Enron opposes this management approach. As a matter of fact, the issue of imposing "blanket" COAs on APDs was raised in the industry appeal of the Big Piney/LaBarge Coordinated Activity Plan (CAP). The Bureau's October 21, 1992, decision regarding the CAP protest specifically states on Page 3:

"The use restrictions on construction, drilling and well completion activities for the benefit of big game and other animals are not to be applied for a blanket 5-1/2 to 9-month period and are not to be applied as "stipulations," or additional stipulations, on existing unstipulated oil and gas leases. Rather, the need for restrictions is to be determined through case-by-case review and analysis of APDs and Sundry Notices, at the time such APD's and Sundry Notices are submitted for approval. Application of the restrictions is to be only as necessary and appropriate to avoid unnecessary and undue impacts."

Clearly, it is inconsistent with BLM policy to arbitrarily attach a COA on an APD without a site-specific evaluation to determine whether activity during crucial winter periods would result in unnecessary and undue degradation. Therefore, the policy outlined in the DEIS/RMP must be modified to reflect this new direction.

- 6 We are also deeply disturbed by the BLM's position as stated on page 7-11, "if a restrictive COA is specifically determined to be unreasonable by the Authorized Officer, mitigating measures must be considered (e.g., suspension of operations and production, alternative scheduling or development scenarios)." (emphasis added) If a restriction has been determined to be unreasonable and cannot be applied, as outlined in Washington Office Instruction Memorandum (IM) No. 92-67, it is because the proposed activity would not cause unnecessary and undue degradation. BLM policy outlined in the above IM follows:

"Any relocation greater than 200 meters, timing restriction greater than 60 days, or mitigation which would render a proposed operation uneconomic or technically infeasible is not considered to be consistent with a lessee's rights and cannot be required absent a lease stipulation, unless it is determined that such mitigation is required to prevent unnecessary and undue degradation of public lands or resources. The clear evidence and convincing need for such mitigation must be documented in a site-specific EA or EIS, if necessary, on the APD."

The Bureau's Decision on the Big Piney/LaBarge CAP further clarifies BLM policy:

"The BLM Wyoming State Director, or his representative, utilizing appropriate COAs, can exceed the 60-day and 200-meter rule for site-specific actions, such as an APD, where there is site-specific environmental analysis and clear and convincing evidence in the documentation showing undue and unnecessary degradation would result if protective restrictions were not applied. This takes into consideration that due and necessary degradation are acceptable." (emphasis added)

The BLM's examples of mitigation are especially confusing when taken in the context of the previously stated BLM policy. In our view, mitigation identified by the BLM should be limited to instances in which the COA can be justified because the proposed activity would result in unnecessary and undue degradation. If the COA cannot be applied because it is unreasonable, neither can other highly restrictive mitigation measures, such as a suspension of operations and production. Further, the benefit of a suspension of operations and production to an operator is unclear, particularly if the lease is held by production. Contractual obligations must be the primary deciding factor along with reservoir capability and technology.

Is it possible that this is a typographical error which should read, "if a restrictive COA is specifically determined to be reasonable by the Authorized Officer, mitigating measures must be considered. . .?" This would make much more sense.

4. Exceptions to Seasonal Restrictions

- 7 Enron is encouraged that the BLM in Appendix 7-1, Page 7-11, has pointed out that crucial winter ranges are off limits to activity during the winter months only when conditions dictate. Moreover, we support the BLM's attempt at developing "Criteria for Considering Exceptions to Seasonally Restricted Activity." We believe this approach is reasonable and on the right track. However, the criteria need to be more specific in order to provide the public and industry with an accurate idea of when an exception may be granted. As presented, the criteria are too subjective and no tangible basis for making a decision is presented. Consequently, the process or criteria requirements could be misinterpreted by special interest groups or abused by those who do not want oil and gas activity to occur in a specific area.

Therefore, we recommend that the BLM identify more specific criteria for when an activity would most likely be granted an exception to seasonal restrictions. For example, the "Weather Severity Criteria" should indicate a general range of acceptable conditions for each element of the criteria, e.g., snow depth, wind chill factors, air temperature and variation, and duration of condition. The same should be done for Habitat Condition and Availability, Site Location and Timing. We firmly believe such information is crucial to making reasonable decisions which will not surprise anyone.

Comment Responses

- 30-5 For leases containing stipulations with seasonal wildlife restrictions, this COA is used merely to remind the operator of the lease terms. For leases not containing these stipulations, see response to comment 27-3.

- 30-6 See response to comment 27-3.

The BLM interpretation of due and necessary degradation is degradation that exists or occurs from oil and gas development after all reasonable measures have been taken to mitigate the effect or impact (i.e., undue and unnecessary degradation) of the development. Measures considered appropriate include seasonal restrictions, slope restrictions, distance from surface water, no surface occupancy, etc., as long as development is not precluded (taking of lease rights). Instances where lease suspension may be appropriate are when a lease is about to expire and an approved APD cannot be implemented; suspension would be appropriate to save the lease from expiration.

- 30-7 The criteria that were developed for considering exceptions to seasonally restricted activity were developed to provide guidance on this subject. In granting exceptions to winter stipulations, there is no cookbook solution to identifying when exceptions can be granted. There are many variables that have to be considered including snow depth, temperatures, and the condition of the animals. After considering these factors, BLM wildlife biologists use professional judgement to determine what effect the action will have on animals. In working with living creatures, there is no standard solution, but variable conditions that can influence their welfare.

- 8 A major factor which should be included in the criteria about the condition of crucial winter range is the relationship between habitat and oil and gas activity. According to the Hayden-Wing Report prepared on big game and sage grouse in the Big Piney/La Barge area, the long-term extensive growth of deer herds in areas with substantial simultaneous oil and gas activities is evidence that such activities have not had a significant negative effect on mule deer herd sizes. Quite the contrary has happened. The mule deer population has increased greatly throughout Wyoming over time despite the continuous and simultaneous occurrence of competition with domestic livestock for forage, annual hunter harvest pressures and long-term oil and gas development which has included some winter drilling.
- 9 Without any concrete data which show that oil and gas have a significant, detrimental impact on wintering mule deer and antelope, we oppose the BLM's intent to restrict oil and gas activity in crucial winter range areas. To restrict oil and gas activity during winter months is prejudicial since very little is being done to improve big game winter range habitat conditions. Table 2-1 on Page 65, discloses under the Preferred Alternative that "no more than 10 percent of the sagebrush in antelope and mule deer crucial winter ranges and no more than 20 percent within two miles of sage grouse leks could be treated in a 10-year period." This level of improvement hardly represents a dedicated effort to enhance wildlife habitat. If the BLM were serious about protecting wintering big game instead of finding ways to inhibit oil and gas exploration and development, a greater emphasis would be placed on ensuring the habitat is in good condition.
- 10 We also recommend that the BLM take a more active role in coordinating management efforts with the Wyoming Game and Fish Department, particularly when it comes to determining optimum herd sizes. If minimal efforts are being expended to improve habitat conditions, it is logical that herd sizes should be limited to levels that can be supported on existing habitat in its existing condition.
5. Geophysical Operations
- 11 The BLM's proposed deviation from current management procedures regarding geophysical activities will have a devastating impact on oil and gas exploration in the GRRRA. Geophysical surveys are a critical component of both oil and gas exploration and development programs. To limit these activities to existing or designated roads and/or trails will severely hinder future oil and gas activity because the ability to collect the requisite geological information will be extremely limited.
- 12 According to Table 2-1, current management for geophysical exploration provides that off-road vehicle travel restrictions would not apply in all areas. Specifically, vehicles would not be limited to existing or designated roads or trails unless analysis determines it is necessary. No explanation about why the BLM proposes to change current management policy is provided. Furthermore, no analysis has been included which shows that existing management has resulted

- in significant adverse impacts which must be avoided. Therefore, we oppose the BLM's proposal to require geophysical activities to comply with management prescriptions for off-road recreational vehicle use because it would preclude or severely limit access throughout the GRRRA.
- Unlike recreation activities, geophysical operators must submit a Notice of Intent to Conduct Oil and Gas Exploration Operations. This Notice of Intent (NOI) must include a map showing the location of the geophysical line, all access routes, and ancillary facilities, if any. Depending upon the area to be explored, a cultural survey may be required as well. The NOI also must be in full compliance with the practices and procedures required for operating on BLM lands. Additionally, the party conducting the geophysical survey must be fully bonded to ensure there are no long lasting impacts from the activity. Before operations can commence, the BLM must approve the NOI. Moreover, the BLM can closely monitor the activity if it is deemed necessary.
- 13 Considering the procedures and requirements which must be followed prior to commencement of geophysical activities, we do not believe the BLM can defend imposition of ORV restrictions on geophysical activities. Very few impacts are actually associated with geophysical work and those that are identified by the BLM seem to be highly exaggerated. For example, the discussion on Page 533 of effects which could occur under Alternative A claims mineral exploration, development and production constitute a potential fire hazard due to an increased number of ignition sources, i.e., catalytic converters on geophysical exploration vehicles and the use of surface explosives. No information is provided in either Chapter 3, Affected Environment, or Chapter 4, Environmental Consequences, regarding fires which may have resulted from geophysical activities. Nor is it disclosed that geophysical teams include a fire crew which follows up operations to ensure no fires have been started. Of course, in the unlikely situation that a fire is ignited, the crew would extinguish it immediately. Therefore, it would be safe to assume that very little, if any, fire danger would be present during geophysical operations.
- 14 According to further discussion on Page 533 regarding current management, "Management of geophysical activities to avoid actual candidate plants sites would prevent existing populations from being impacted." Considering this declaration that existing management fully protects candidate plant species from geophysical exploration, there is certainly no justification for imposing more restrictive constraints to protect candidate plant species as described in the Preferred Alternative.
- 15 One last comment regarding geophysical work is that the BLM's assertion on Page 513 that limitations on geophysical activities will protect visual quality in many areas, including the South Park Historic Landscape, is peculiar. We are unaware of any significant or long-term visual impacts which result from geophysical activities. No explanation as to the impacts the BLM is trying to avoid is even discussed. What would be the magnitude of impact on visual quality from an activity which is so temporally limited that in most situations it does not even qualify for

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- 30-8 The deer herd population trends in the Green River Resource Area contradict this statement. They have gradually declined over the past 25 years despite more restrictive seasons and habitat enhancement work on crucial ranges. We agree that more range improvement work is warranted to offset browse decadence and resource use impacts. The acreage figures shown in the RMP Draft EIS are an estimate based on past budgets to perform habitat enhancement. The relationship between habitat and oil and gas activity will be one of the criteria considered and analyzed when considering condition of crucial winter range.
- 30-9 The BLM is a multiple use agency and one of our responsibilities is to provide habitat for wildlife. In addition, we are responsible for ensuring that actions taken by one resource such as oil and gas is not developed to the detrimental effect to another resource such as wildlife. Winter stipulations are placed on leases for the purpose of implementing if conditions warrant. Winter is a stressful time for wildlife including deer and antelope and this is well documented. We have many fine examples where habitat is in good condition or is being improved. Table 2-1 shows limits placed on burning so that we do not jeopardize habitat by overtreating.
- 30-10 BLM meets annually with the Wyoming Game and Fish Department and provides input into herd unit objectives, range condition, and proposed seasons. See response to comment 30-9.
- 30-11 See response to comment 27-9.
- 30-12 See responses to comments 27-9, 28-33, and 28-34.
- 30-13 See response to comment 27-11.
- 30-14 See response to comment 27-12.
- 30-15 See responses to comments 27-13 and 28-33.

consideration as short term? We submit the effects of geophysical activities on visual resources are minimal and should not be of any concern.

6. Candidate Plant Species

- 16** The BLM's management proposal for candidate plant species is too restrictive. The BLM has not evaluated all available management options for ensuring the viability of the plants and their habitat areas. In Chapter 4, Under the Preferred Alternative, the BLM proposes not to allow leasing at all on 440 acres of known habitat while allowing leasing without surface occupancy on 2,670 acres in an effort to protect the areas. The same proposed management is identified in Chapter 4 for Alternative B. However, Table 2-1 on Page 21 indicates that candidate plant species locations and habitat would be open to leasing with a Controlled Surface Use (CSU) stipulation under Alternative B. This inconsistency must be corrected.

Additionally, we would like a specific accounting of what impacts to candidate plant species could result from the application of CSU stipulation on oil and gas activities, instead of withholding the areas from leasing or imposing a NSO stipulation. The BLM has not cited any grounds for the restrictions outlined in the Preferred Alternative. Furthermore, we firmly maintain that a CSU stipulation will provide adequate protection of candidate plant species and their known and potential habitat areas. There is no need to withhold these areas from leasing or to subject them to no surface occupancy restrictions.

7. Areas of Critical Environmental Concern (ACEC)

- 17** The BLM's proposal for several new Areas of Critical Environmental Concern (ACEC) is of great concern because many of the proposed areas have significant potential for oil and gas exploration and development. Before addressing specific ACEC proposals, however, a general comment applicable to all the proposed ACECs is necessary. We believe the BLM has failed to document in the DEIS that the proposed ACECs meet the designation criteria described in BLM Manual Section 1613. These criteria require potential ACECs to have specific relevance and importance in order to qualify for designation. While these areas may be relevant in terms of resource values, the BLM has not illustrated their importance. Specifically, the BLM must show these areas have: 1) more-than-locally significant qualities that give them special worth compared to any similar resources, 2) qualities or circumstances that make them exemplary or unique, 3) been recognized as warranting protection to satisfy national priority concerns or to carry out the mandates of the FLPMA, 4) qualities that warrant highlighting to satisfy concerns about safety and public welfare and 5) posed a significant threat to human life and safety or to property. Before the BLM can justify any of its ACEC proposals, it must be established that they meet the requirements of the above criteria.

- 18** Enron opposes the proposal to designate 43,010 acres in the Steamboat Mountain area an ACEC. The BLM's stated objective for the designation is to provide suitable habitat with which to maintain the Steamboat Mountain elk herd. While the elk herd may be a valuable resource, an ACEC is hardly necessary to ensure its protection. There are many elk herds in Wyoming and other parts of the Country that are effectively managed without benefit of an ACEC designation. On the other hand, an ACEC designation can be used to hinder oil and gas leasing and development.

- 19** To impede oil and gas activities in the Steamboat Mountain area is apparently one of the BLM's unstated objectives. Although there are already 60 existing leases in the area, the BLM proposes to delay all further leasing in the area until a "site-specific" leasing plan can be done. It is safe to assume that in some cases additional leases would be required before companies could consolidate the land position needed to put together a play. Given the fact that industry has expressed an interest in developing unconventional as well as conventional oil and gas resources within the western portion of the proposed ACEC, the proposed decision to withhold the area from further leasing until a leasing plan can be completed is an obvious delay tactic. The BLM has spent several years analyzing the GRRA; it should be possible to make a decision on how to manage leasing in the Steamboat Mountain area without any further delay.

- 20** Enron also strongly opposes the proposed creation of the new Tri-State Monument ACEC. Both the Sage Creek and Current Creek areas have high potential for the occurrence of oil and gas resources. Further, the Red Creek area contains an important right-of-way corridor which should remain available for future right-of-way needs, such as pipelines to fields to the south. Portions of these areas also have moderate potential for future oil and gas development, as indicated by the energy industry. Due to this high level of interest, any BLM action which would preclude all surface disturbing activities on new leases in these areas is unacceptable. The BLM's stated objectives in designating these two new ACECs are to maintain the watershed values and existing habitat for cutthroat trout. However, there is nothing in the planning documents to indicate that these are somehow unique or significant watersheds that merit added management attention and protection and which cannot be adequately protected without an ACEC designation. The BLM must document in the environmental study the need for the ACECs and why oil and gas activities have been deemed incompatible uses.

8. Potentially Suitable Wild and Scenic Rivers

- 21** Enron objects to the proposed Interim Management for potentially suitable wild and scenic river areas because it exceeds the legal requirements of the Wild and Scenic Rivers Act of 1988. The BLM proposes to prohibit all mineral exploration, leasing or development in both candidate wild and scenic river segments within 1/4 mile of the centerline of the rivers. Such management is more restrictive than the law requires. The law stipulates that only upon a river's designation by Congress as wild must it be withdrawn from mineral leasing. No provision for withdrawing

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- 30-16** On page 246, Alternative B states that the known Candidate plant populations would be open to mining claims and oil and gas leasing.

In the proposed plan, BLM proposes a No Surface Occupancy designation for actual Candidate locations. The BLM thinks this policy provides maximum protection for Candidate species, consistent with the principles of multiple use, and provides all operators with notice of stipulations or conditions of approval that may be necessary. Surveys performed on potential habitat for Candidates will determine their presence prior to surface disturbing activities. These areas are small and extremely localized. Avoidance of these sites is feasible and should not adversely affect operations. Since Candidate plant habitats are localized and extremely site specific, any alteration of that habitat can adversely affect plant populations. At this time there is no known successful mitigation such as transplanting or reestablishing populations. However, should more information become available, or a plant delisted, the plan would be modified accordingly and additional analysis would determine the types of activity that could then occur. The intent behind this policy is to avoid the small areas where the plants are located while allowing operators to develop their leases in areas where Candidate plant species are not found.

- 30-17** See response to comment 27-16 and changes in the text.

- 30-18** See response to comment 27-17.

- 30-19** See response to comment 27-17.

- 30-20** See response to comment 27-18. Alternate rights-of-way corridors are being proposed in cooperation with industry. The text has been modified reflecting Red Creek concerns.

- 30-21** The BLM completed a process that involved analyzing all rivers and streams in the resource area to determine eligibility as a Wild and Scenic or Recreational river, and classifying these rivers on their outstanding remarkable values. The Sweetwater River was identified as suitable. Seven segments where found suitable with various classifications. The BLM protects river resource values and characteristics of candidate river segments until studies have been completed and Congressional action has been completed. During the RMP process, we analyzed any conflicting land uses that could potentially "impair" the suitability of the river for designation into the National Wild & Scenic River System. The "suitable" segments of the Sweetwater River will be withdrawn from mineral entry. The withdrawal does affect mineral leasing. See responses to comments 27-19 and 27-20.

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rivers under study is included. In fact, the law states just the opposite at 16 US Code Subsection 1280(b):

"Nothing contained in this subsection shall be construed to forbid prospecting or the issuance or [of] leases, licenses, and permits under the mineral leasing laws subject to such conditions . . . appropriate to safeguard the area in the event it is subsequently included in the system."

Obviously, Congress did not intend for these areas to be withdrawn from oil and gas leasing and exploration.

We recognize that the river segments in question have low potential for oil and gas resources. However, the act of arbitrarily withdrawing them from oil and gas leasing would set an onerous precedent. Such a precedent could cause needless conflicts in the future on other river segments in Wyoming. Therefore, we strongly recommend that the BLM revise its management strategy for potentially suitable wild and scenic rivers. We believe a CSU stipulation on wild segments would provide comprehensive protection to the values for which the segments were identified until the segment is formally designated by Congress. Segments which are to be found potentially suitable for scenic or recreational designations should be made available for lease with a standard terms and conditions. In addition, a lease notice indicating mitigation may be required to suitable protection in these areas.

9. Visual Resource Management

22 The BLM states on Page 513 that it intends to initiate a program to improve the visual quality of existing oil fields to benefit visual and other resource values, such as soil, watershed and vegetation. We have found no details of this program in the planning documents. Therefore, we strongly urge the BLM to work closely with field operators in formulating such a program to ensure a reasonable approach to improving visual quality is adopted.

23 It unclear from the documents how the BLM can justify its proposal to classify the eastern portion of the Sand Dunes ACEC as Visual Resource Management (VRM) Class II when the area already sustains 18 producing wells. It would seem that if the area qualifies for VRM Class II, the visual impacts of existing facilities are minimal and obviously not a source of conflict. Yet, the BLM intends to evaluate the visual impacts of these facilities and to the extent reasonable, mitigate them. We are concerned that the BLM has failed to acknowledge that valid, existing lease rights prevail over any changes in visual management. None of the existing operations can be compromised by the BLM's new VRM classification.

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30-22 See response to comment 27-21. Thank you for your comments and observations.

30-23 See response to comment 27-22.

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10. Buffer Zones

24 Enron endorses the use of the NSO stipulation to protect actual petroglyph sites; however, we do not support the practice of imposing 1/2 mile buffer zones around them as proposed in the Preferred Alternative. The five known rock art sites themselves encompass a total of 100 acres. Yet, the BLM intends to arbitrarily restrict surface occupancy on 2,400 acres surrounding these sites in order to preserve their "visual integrity." However no documentation showing the visual integrity would be jeopardized in these areas if oil and gas activities were to take place is provided. We believe the broad-brush NSO stipulation is excessive and ignores the working relationship that has been established between the land management agency and the oil and gas industry. In our view, a CSU stipulation would provide adequate protection of the visual integrity of the surrounding acreage without needlessly withholding them from all surface disturbing activities. By utilizing a CSU stipulation, only those areas in which the visual integrity could be compromised would be restricted.

11. Operational Standards

25 The BLM's proposal to require all oil and gas roads to be paved and/or upgraded as stated on Page 178 is excessive. Is the energy industry being singled out or will all users, including the BLM and local Counties, be required to pave or upgrade their roads? The BLM needs to incorporate a reasonable degree of flexibility into this requirement. Before imposing such improvements, all roads in the GRRRA should be evaluated to determine whether it is necessary to upgrade them. In our view, upgrading should be limited to problem roads where a tangible benefit would result rather than an capricious waste of time and money.

26 In Chapter 4 of the DEIS, the BLM predicts that the average oil and gas access road will be less than one mile in length. Obviously, it would be imprudent to pave such a short road unless there were extraordinary resource conditions. Usually, oil and gas field transportation systems are not paved because to do so would result in more disturbance than is warranted. It is also much more expensive to pave a road, in terms of construction and reclamation. Consequently, companies operating marginal wells with long access roads would likely shut them in rather than upgrading the roads. This would have an adverse socio-economic impact to the state, as well as the oil and gas industry. Barring resource considerations, the only time an operator would be likely to pave an access road is if the BLM requires it for some worthwhile reason.

27 We also object to the BLM's requirement that pits in areas with a soil permeability of greater than 0.05 inch per hour will have to be lined. First, no mention is made as to how permeability will be determined. Who will be responsible for conducting a percolation test? We recommend that the BLM indicate specifically how it will determine the level of permeability. Second, flexibility must be incorporated into this overly restrictive standard. Drilling muds and fluids do not necessarily contain substances which would result in groundwater contamination. Therefore,

30-24 See response to comment 27-23.

30-25 See response to comment 27-24.

30-26 See response to comment 27-24.

30-27 Permeability is determined by a percolation test that the applicant performs. See response to comment 27-26.

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It would be reasonable that operations which do not require the use of oil-based muds or hazardous chemicals should not be compelled to install pit liners.

12. Surface Disturbance Inconsistencies

28 Using the BLM's figures to project the range of long-term disturbance, it becomes apparent that new impacts would be minimal. When the BLM's figures are applied to the BLM's most probable future drilling activity of 1,258 wells, the grand total of long-term surface disturbance is 6,290 acres. Even the estimated disturbance associated with the highly questionable maximum future projection of 2,385 wells amounts to only 11,924.5 acres, an extremely negligible impact when taken in context of the 3.5 million-acre GRRRA. In light of these figures, it is confusing that the BLM assumes on Page 519 of the DEIS/RMP that a total of 20,268 acres of wildlife habitat would be lost upon implementation of the Preferred Alternative. This figure is nearly twice those we calculated using BLM's short-term disturbance assumptions for the expected level of new development, which is more than likely on the high side. The BLM must address and eliminate these inconsistencies in the final document.

29 Another inconsistency which must be corrected is that the no lease figures associated with the Preferred Alternative vary by chapter. Specifically, Table 2-9, Chapter 2, shows that 331,020 acres will be unavailable for lease while it is maintained on page 502 that 465,570 acres will not be leased under the Preferred Alternative.

30 Map 15 shows the areas which would be subject to NSO stipulations under the Preferred Alternative. As such, it reveals that all streams and rivers and their adjoining lands are subject to this severe constraint. However, Map 17, which displays areas subject to Surface Disturbance Stipulations, includes these areas as well. It is unclear why the BLM would require a NSO stipulation where a surface disturbance stipulation is applied. The Surface Disturbance stipulation would provide adequate protection of this resource.

Conclusion

31 In conclusion, the BLM has not complied with its own policies or the requirements of the National Environmental Policy Act to take a "hard look" at proposed activities. We strongly recommend that the BLM reevaluate its proposed decisions regarding management of oil and gas activities because they are needlessly constraining. Restrictive management must only be utilized where it can be fully justified and it can be unequivocally shown that less restrictive measures would not suffice to protect the resource. The BLM has failed to do this in the subject DEIS/RMP. Additionally, the BLM has not evaluated and documented in the DEIS the impact its proposed decisions will have on the oil and gas program in the GRRRA. Clearly, with these added restrictions, the BLM will effectively halt all new oil and gas exploration and development in the study area. Therefore, we strongly recommend that the BLM develop an

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alternative that requires less restrictive management of oil and gas activities, an alternative more closely aligned with current management.

32 Enron Oil and Gas Company consistently strives to work with the BLM in an effort to resolve all perceived conflicts between our infill development activities and sensitive resource values and uses. We encourage the BLM to use the professional relationship it has established with us and other operators in the GRRRA to work out potential conflicts without resorting to overly restrictive management of future oil and gas activities. We would be glad to work with the BLM to develop a more reasonable management approach to oil and gas exploration and development activities on public lands. Again, we appreciate the opportunity to provide you with our views and concerns. If you would like to discuss our comments in greater detail, please contact me.

Sincerely,



D. Weaver
Agent and Attorney-in-Fact

cc: C. W. "Pete" Culp, Jr. - Acting BLM Director
Ray Brubaker - Wyoming BLM State Director

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30-28 The figures you mention are correct and do not represent inconsistencies in the document. We estimate that approximately 13.5 acres of surface disturbance occurs with each producing well (this includes pad, road, and pipeline), and approximately 68% of all wells drilled are producers. Under the 1,258 wells, 11,548 acres of vegetation will be removed. Under the 2,385 wells, 21,894 acres of vegetation will be removed. Wildlife do not benefit from reclamation or the short-term disturbance assumptions. We estimate it will take upwards of 20 years to return vegetation to pre-disturbance condition. Therefore, it will take that long for the reclaimed areas to be usable by wildlife. These acreage figures do not take fragmentation, displacement, etc. into account which would increase these figures even more. Also see response to comment 27-27.

30-29 Table 2-9, page 147 is the correct figure and this will be corrected in the RMP Final EIS.

30-30 See response to comment 27-29.

30-31 See responses to comments 27-30, 30-1, and 30-2. We feel we have complied with NEPA.

30-32 Thank you for your comments and we look forward to working cooperatively in the future with Enron.

Comment Responses

31-1 See response to comment 27-9.

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PRODUCTION DEPARTMENT
SOUTHWESTERN DIVISION
ENVIRONMENTAL AND REGULATORY AFFAIRS
RICHARD D. GODDARD
SUPERVISOR

April 21, 1993

Ms. Renee Dana
EIS Team Leader
Bureau of Land Management
Rock Springs District
POB 1869
Rock Springs, WY 82902

Dear Ms. Dana:

Exxon Company, U. S. A. appreciates this opportunity to submit comments on the Green River Resource Area's Resource Management Plan/Draft Environmental Impact Statement (RMP). Our comments below include input from Exxon Exploration Company and represent Exxon's domestic exploration and production interests.

General Comment

Our review of the RMP, especially the section pertaining to geophysical operations, indicates significant changes will be made in the way industry activities are managed in the future. For example, if BLM's preferred alternative is implemented as proposed, there will be a 30% increase in the amount of acreage which will be withheld from leasing and a 94% increase in the use of No Surface Occupancy leases. Other proposals include management of candidate sensitive plants and their habitats as if they are listed as threatened or endangered species and requirements that restrict geophysical operations to existing roads and trails.

Exxon is deeply concerned about the proposed changes because they represent a significant departure from current management direction and because information about actual conflicts between oil and gas and other land uses or land users which would justify such change is lacking in the RMP. The Rock Springs office of BLM has a wealth of experience with every aspect of industry ranging from leasing and geophysical operations to major field development, the benefits of which should be incorporated in the subject RMP. Comments about specific sections of the RMP are detailed below.

Geophysical Operations

- Exxon is concerned about the Bureau's proposal to manage geophysical operations under Off-Road Vehicle (ORV) restrictions which will limit activities to existing roads and trails. Geophysical operations have few if any residual effects on surface resources if they are conducted at appropriate times during the year and incorporate techniques which reduce or eliminate environmental impacts. Examples include vibroseis methods and use of above-ground charges, helicopter support for operations, use of articulated vibrator trucks and oversnow vehicles for access and conducting operations during winter to reduce conflicts with summer tourist seasons and motorized recreation activities.

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- Exxon believes BLM's Notice of Intent filing requirement and its subsequent approval process (as presented in Appendix 7-3) affords the Bureau substantial control over geophysical operations which it does not have for most ORV activities. For example, BLM's archeological survey requirements and authority to impose conditions of approval minimize or eliminate potential negative impacts. Exxon believes BLM should revise the RMP to reflect its authority to properly manage geophysical operations instead of imposing ORV standards in a blanket-like manner.

Exxon urges BLM to revise the RMP to permit geophysical data acquisition in wilderness study and designated wilderness areas as authorized by Section 4 (d)(2) of the Wilderness Act of 1964. In these instances, recording equipment is manually deployed within designated wilderness areas and is only used to record data. All other mechanized equipment or surface charges are restricted to areas outside designated wilderness or wilderness study areas.

Conditions of Approval

- The language and intent regarding Conditions of Approval (COA) in Appendix 7-1, "Procedures for Oil and Gas Application Processing in Areas of Seasonal Restriction" (page 711) is unclear. The last two paragraphs in the left column state:

"If a seasonally restrictive COA is needed on a lease containing no such stipulation, the decision whether to impose the restriction must also consider the reasonableness of the restriction relative to the operator's ability to exercise the benefits of the lease (43 CFR 3101.2).

If a restrictive COA is specifically determined to be unreasonable by the Authorized Officer, mitigating measures must be considered (e.g. suspension of operations and production, alternative scheduling or development scenarios, etc.)." (Emphasis added).

With regard to the first paragraph, Exxon believes Washington Office Instruction Memorandum 92-67 (issued December 3, 1991) provides specific COA guidelines to be followed. This Instruction Memorandum (IM) should be included in Appendix 7-12 to eliminate confusion. Three key elements of this IM apply to the first paragraph above:

- The authorized officer may relocate a proposed operation up to 200 meters or prohibit surface disturbance for up to 60 days by using the authority of the lease terms and regulations and by attaching a COA to the Application for Permit to Drill (APD). The need for any COA must be clearly justified and documented in the EA for the APD. (Emphasis added).
- Any relocation greater than 200 meters or timing restriction greater than 60 days, or mitigation which would render a proposed operation uneconomic or technically infeasible is not considered to be consistent with a lessee's rights and cannot be required absent a lease stipulation unless it is determined that such mitigation is required to prevent unnecessary and undue

31-2 We agree that when the BLM issues a permit for any activity, such as recreation, grazing, or mineral developments, we have more control over these activities. The BLM permitting system is designed to do this. It is impossible to have this kind of "substantial" control over casual use activities. See response to comment 27-9.

Wilderness management was not addressed in the Green River RMP Draft EIS because it was addressed in two other documents, the Rock Springs District Final Wilderness EIS (August 1990) and the Adobe Town-Ferris Mountains Final Wilderness EIS (December 1987). When Congress makes decisions regarding the WSAs in the planning area, they will be incorporated into the Green River RMP. The lands not designated as wilderness would lose their identity as Wilderness Study Areas (WSAs) and would be managed along with the adjoining land area as prescribed in the approved Green River RMP.

31-3 BLM cannot impose a COA that will preclude the lessee from developing the lease, i.e., a COA that is so restrictive that the lessee cannot exercise their right to develop the lease. Such a COA would constitute a taking of lease rights, or breach of contract. The intent, therefore, is to ensure the COA maintains reasonable opportunity for the lessee to develop the lease.

If the COA, required to avoid unnecessary and undue degradation (i.e., to protect a resource from significant impact), is determined to be unreasonable (i.e., the lessee cannot develop the lease because the time window is too narrow), the BLM, in consultation with other appropriate federal and/or state agencies and the lessee or operator, must identify some reasonable means for development. If this cannot be done without causing a significant impact to the human environment, then an EIS must be prepared.

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degradation. Clear evidence and convincing need for such mitigation must be documented in a site-specific EA or EIS for the APD. (Emphasis added).

3. Any COA must have waiver exception/modification criteria identified in the NEPA document for the specific well in the event environmental conditions change such that the mitigation required by the COA is no longer appropriate or necessary.

The intent of the second paragraph from Appendix 7-1 is unclear because the examples shown (suspension of operations and production, alternative scheduling or development scenarios, etc.) may, in fact, be more restrictive than the "unreasonable COA" which is mentioned here. Exxon believes it is appropriate for BLM to consider less restrictive stipulations if a COA is found to be unreasonable or is found to be inconsistent with a lessee's rights to explore, develop or produce from a federal lease. IM 92-67 states, "If there is only one route of access possible for development of an existing oil and gas lease, and that route presents the likelihood of some degradation of public lands or resources, such degradation may be considered necessary for the management of the oil and gas resource." IM 92-67 continues, "The RMP/EIS or site-specific environmental document may identify mitigation which would result in excessive expenditures of money or unusual technological requirements to achieve compliance. If the mitigation would render the proposed operation uneconomic or technically infeasible so that a prudent operator would not proceed, such degradation may also be considered necessary for management of the oil and gas resource."

Candidate Species

- 4 BLM indicates candidate plant species will be managed with the objective of preventing destruction or loss of plant communities and potential habitat by closing areas to surface disturbance, mining, off-road vehicular travel and use of explosives. We urge BLM to work with appropriate state and federal agencies to timely assemble and review existing information as required by Section 4 (a)(3)(b) of the Endangered Species Act to resolve the status of the five Category 2 plants as threatened or endangered instead of waiting for project proposals to serve as a vehicle for field searches. We believe such an approach is consistent with the "structure of the [Endangered Species] Act [which] confirms that §7(a)(2) applies only to listed species....[T]o be protected under §7(a)(2) a species must be listed under §4." (Wilson v. Block, 708 F.2d 735, 750 (D.C. Cir.), cert. denied, 454 U.S. 956 (1983)).

Interagency Coordination on Wildlife Issues

- 5 BLM's preferred alternative indicates biological diversity and fish and wildlife resources are two of its top wildlife management objectives. The RMP states (pg. 184 and 185) that development of habitat improvement plans in "highly developed areas" would be required to mitigate wildlife habitat losses and that seasonal restrictions for surface disturbing activities might be necessary to protect game fish and special status fish populations during spawning. Numerous other similar requirements are identified throughout the RMP.

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- 6 Because this RMP sets management direction for the next 15 years, Exxon believes it is important for BLM and Wyoming Game and Fish Department (WGFD) to agree on wildlife population objectives and wildlife habitat needs. From our perspective as operators, it is clear that such a need exists not only in the context of the RMP but also for identification of mitigation measures to be used for proposed projects. The RMP identifies several examples of problems on page 423, that "WGFD manages big game on a herd unit concept....which does not match BLM resource area boundaries, making analysis and correlation of resource data and big game population difficult. The WGFD revises its strategic population numbers....based on new habitat information, population trends, and recreation demand."

We urge BLM and WGFD to resolve these issues, taking water availability, wildlife population goals, data-sharing, wildlife habitat carrying capacities and other land uses and users into account. That such an agreement is needed is obvious from Table 3-22 where, in 1988 to 1989, big game populations were more than 50% over the stated objective in several cases. There is no mention in the RMP, however, of the need to reduce excess deer and antelope populations to match the carrying capacity of the habitat to avoid conflicts with other lawful permitted multiple uses. Instead, the RMP recommends a variety of mitigation measures to be employed by the petroleum industry to protect wildlife and wildlife habitat even though, according to Tables 4-14 and 4-16 to 4-20 inclusive, the cumulative annual surface disturbance stemming from oil and gas in the Green River Resource Area is less than 1% of the federal acreage.

Socio-economic Impacts

- 7 Oil and gas should be considered equitably with other resources and land uses by identifying economic benefits to state and local governments in the RMP. Current and historical information should be displayed in the RMP regarding leasing; lease bonus, rental and royalty income; project permitting requirements; current production; reclamation work in progress and overall success with rehabilitation. We believe such specific information will assist the public in establishing a proper perspective of industry and BLM's ability to manage oil and gas operations.

Reasonably foreseeable development scenarios should take oil and gas potential, industry interest and new technology into account. We caution, however, that low or unknown potential and lack of industry interest should not be used to justify withdrawal of lands from leasing or to impose restrictions on access or potential development because new information and technology or improved economics can quickly change prospect viability. BLM should evaluate the effect of surface resource programs and management on oil and gas exploration and development opportunities to ensure that only necessary and reasonable constraints are imposed. Finally, BLM should ensure that valid existing rights of lessees and permittees are not compromised or extinguished.

Trona/Oil and Gas Conflicts

- 8 One new concern which evolved during preparation of the RMP and which deserves BLM's attention is the issue of overlapping mineral leases. Exxon believes this issue should be equitably resolved for all parties in the RMP, utilizing information from the affected lessees and BLM as the federal mineral trustee.

Comment Responses

We do not disagree with the points of your comment pertaining to IM 92-67. Clarification is needed. The intent of the second paragraph is simply to point out that if this situation develops, an EIS is required. An APD submitted to BLM for processing must first receive an environmental review (i.e., an environmental assessment is prepared to determine if adverse impacts to the human environment from the proposed construction, drilling, and production/operations would be significant). If certain mitigation were available or possible that would eliminate the potential for significant impact, but such would render the proposed operation uneconomic or infeasible, i.e., in effect an unreasonable COA; then, to comply with NEPA, BLM must proceed with preparation of an EIS. In this situation, because an EIS could take 12 to 16 months to complete, or because there may be other scheduling or alternative development scenarios to consider to ensure unnecessary impacts have been mitigated to a level of degradation considered necessary; to protect a lessee's lease from expiring, a lease suspension could be approved, and/or other alternative scheduling or development alternatives developed in cooperation with the applicant may acceptably mitigate impacts.

- 31-4 The BLM has established the floristic inventory of the Resource Area as a priority program. Status surveys of two Category 2 plant species have been contracted to the Wyoming Natural Diversity Database annually. We are continuing our efforts to develop Habitat Management Plans for each Candidate species. Until these efforts are completed, case-by-case inventories must be done.

- 31-5 Thank you for your comment.

- 31-6 See responses to comments 16-5 and 30-10.

- 31-7 Economic benefits of oil and gas activity is discussed in the Environmental Consequences portion of this document. Information has been updated and errors in data have been identified and changed. Much material, of necessity, must remain in Resource Area Description, Reasonable Foreseeable Development analysis, and Management Situation Analysis documents available in our Resource Area office.

Reasonable Foreseeable Development scenarios have been developed using the Bureau Manual. The Environmental Consequences part of this document evaluates the impacts of restrictions placed on oil and gas activity due to conflict with other surface resources.

- 31-8 BLM is diligently working on a policy concerning overlapping mineral leases in the Known Sodium Leasing Area (KSLA). Presently the oil and gas companies are working with the mining companies to formulate an alternative policy to the one BLM proposed in the April 27, 1993 letter to all lessees and also presented for public comment on June 2, 1993. BLM has diligently pursued this issue for inclusion in the Green River Resource Management Plan. If the issue is not resolved prior to publication, then the plan will be amended to include the policy adopted by BLM.

Comment Responses

Ms. Renee Dana
EIS Team Leader
Green River RMP/DEIS
Page 5

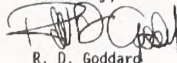
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Air Quality

- 9 The Wyoming Department of Environmental Quality, Air Quality Division (AQD) has primacy for implementing and enforcing Environmental Protection Agency regulations regarding air quality in the state of Wyoming. Exxon believes the air quality management/protection objectives of the BLM can be accomplished by reviewing air permit applications submitted to the AQD and commenting to the AQD regarding air quality provisions that should be included in the State permit. BLM should not develop it's own air quality regulations nor should BLM include air quality related stipulations in project permits other than to require operator compliance with applicable AQD regulations.

Thank you for the opportunity to comment and your consideration of our views. Please do not hesitate to call Mr. Fernando Blackgoat at 915-688-6778 if you have any questions or if we can provide additional information.

Sincerely,



R. D. Goddard

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c: A. F. Benitez, Rocky Mountain Oil and Gas Association
R. Robitaille, Petroleum Association of Wyoming

31-9 Except in the case of safety regulations with regard to H₂S from oil and gas wells, where the BLM has primary authority via Oil and Gas Onshore Order #6, the BLM does not now, nor have any intention in the future of creating its own air quality regulations. However, FLPMA and NEPA (and the proposed EPA conformity regulations) require the BLM to assure that our activities do not directly or indirectly cause environmental laws or regulations to be violated. Our review through the NEPA process generally comes before the air quality permit process is begun. We welcome any assistance on better coordination of these two procedures.

HEITZMAN DRILL-SITE SERVICES

32
DALE HEITZMAN

ROBERT M. ANDERSON

February 25, 1993

Area Manager
Green River Resource Area Office
Bureau of Land Management
1993 Dewar Drive
Rock Springs, Wyoming 82901

RE: Comments on Draft EIS and
Resource Management Plan for
the Green River Resource Area

Dear Mr. LeBarron;

After a thorough review of the somewhat cumbersome DEIS, I offer the following comments on the overall analysis and the various alternatives contained therein:

GENERAL COMMENTS

- 1 In general, the DEIS contains inflammatory language concerning oil/gas exploration and development on our public lands. Statements such as:

- 1) "The emphasis of the minerals program is the largest, most obvious impact to the water and soil resources..." (page 515), and
- 2) "Soil contamination from drilling fluids and accompanying chemicals for production drilling continue to threaten area soils..." (page 515)

- 2 are based solely upon opinion and have no proven basis for inclusion in this document. Regarding statement number 1, the most obvious impact to the water and soil resources of our public lands are the long-term effects of overgrazing - particularly of riparian areas. Overgrazing of our public lands causes soil erosion through the loss of protective vegetative cover and directly contributes to surface water degradation as a result of vegetative destruction/trampling in riparian areas. Furthermore, reclamation efforts on areas disturbed by oil/gas exploration operations are often severely hampered by livestock - particularly in the spring when the yearling plants are succulent and, therefore, most susceptible to the effects of overgrazing.

32-1 See response to comment 28-37.

32-2 Thank you for your comment.

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GENERAL COMMENTS - Continued

- 3 I would direct you to page 176 of the draft document where you state that "...Channel erosion, specifically bank erosion, would be reduced where it has resulted in severe losses of riparian habitat..." The document goes on to state "Channel stability would be improved and maintained, and damaged wetland areas would be restored (e.g. fencing short stream reaches). Enclosures would be designed to allow ample water for livestock and allow minimum impediments to big game migration."

Considering that a majority of oil/gas exploration and development activities are already excluded from impacting wetlands, streams or occupying buffer zones within a specified distance of stream channels, I must presume that this degradation is being caused by primarily livestock - who are apparently not subject to the provisions of the Clean Water Act and/or Executive Orders 11988 and 11990.

- 4 Regarding statement number 2, we both know that the vast majority of drilling fluids consist primarily of bentonite and non-hazardous chemical compounds which are used primarily to maintain mud weight and condition the hole during drilling. I challenge you and your staff to demonstrate that a significant degradation of soil productivity has occurred in your area as a result of contaminants contained in oil/gas related drilling fluids.

Unfortunately, the draft EIS is replete with statements such as those presented above which have no basis in fact and which serve no purpose other than to prejudice the uninformed reader against continued oil/gas exploration and development of our public lands within the Green River Resource Area (GRRA).

In this regard, I would recommend that the Final EIS ensure that these inflammatory statements are removed and that conclusions reached therein are based upon scientific fact and not on fantasy or unfounded personal opinion(s).

HAZARDOUS WASTES

- 5 In several instances, the DEIS mentions hazardous wastes in conjunction with oil/gas exploration and development activities. I would remind both you and your staff that on-lease oil/gas exploration wastes are specifically excluded under the Resource Conservation and Recovery Act (RCRA) and, therefore, ARE NOT classified as "Hazardous".

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Page 3

HAZARDOUS WASTES - Continued

Consequently, the reference to hazardous wastes on pages 129, 495 and 515 should be deleted accordingly.

The oil and gas industry, perhaps more than any other user of the public lands, is very sensitive to the hazardous waste issue and, despite the fact that oilfield wastes are specifically exempted, are very careful to ensure that their operations are conducted in an environmentally acceptable manner and in full compliance with applicable law. The strict record keeping requirements imposed by the Environmental Protection Agency on hazardous materials under RCRA, in conjunction with the stiff penalties prescribed under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) for noncompliance, ensure that oil and gas operators comply fully with existing rules and regulations governing the generation, use and/or storage of hazardous materials on or off lease. As above, I challenge you or your staff to demonstrate that a significant hazardous waste problem exists on public lands within the (GRRA) which is directly attributable to oil/gas exploration operations.

AREAS OF CRITICAL ENVIRONMENTAL CONCERN

- 6 One of the major problems facing oil/gas operators in the United States is the dwindling availability of public lands for oil/gas exploration. In this regard, the DEIS preferred alternative (Table 2-9) proposes to withdraw approximately 637,250 acres from future consideration for oil/gas leasing, which represents approximately eighteen (18) percent of the total federal mineral estate within the GRRA. Of this total, approximately 336,710 acres are located within areas considered to have a "high potential" for commercial reserves of oil and/or gas, while an additional 66,240 acres are located within areas considered to have a "moderate potential" for hydrocarbon production. Although 238,960 of these acres currently enjoy statutory withdrawal from consideration as Wilderness Study Areas, the remaining 163,990 acres should not be arbitrarily withdrawn from consideration, particularly considering the fact that these lands exhibit a strong potential for production. Application of the "No Lease" and "No Surface Occupancy" criteria to these lands precludes any possibility of extracting the strategic reserves of oil and/or gas located therein.

Comment Responses

- 32-3 Riparian areas are of primary importance to the BLM as evidenced by our riparian policy signed in 1987. They are crucial for wildlife, water quality, water recharge, flood control, and other uses. Fenced enclosures are generally used to control or eliminate livestock grazing on small stretches of stream and can be used for studying bank stability, plant vigor, potential natural communities, wildlife uses, or no vegetative use by ungulates. Whether an enclosure or any other tool or method is used in the rehabilitation of a riparian area is determined by site specific analysis with all parties involved. Riparian areas will continue to receive high priority attention. All functions within the Bureau, including livestock grazing, are subject to the provisions of the Clean Water Act and Executive Orders 11988 and 11990.

- 32-4 See response to comment 28-37.

- 32-5 With very few exceptions, oil and gas companies have done a very good job with hazardous waste in the resource area. However, BLM appreciates that exemptions have been given to certain wastes generated by the oil and gas industry as stipulated in the Resource Conservation and Recovery Act of 1976 and the Comprehensive Environmental Response, Compensation, and Liability Act of 1980. These exemptions are on file in BLM offices.

The exemptions given to certain wastes generated by the oil and gas industry are regulatory in nature only. Such wastes may actually be physically harmful to the environment when released and thereby pose an environmental threat. At such times, appropriate response and cleanup measures may be required regardless of a particular waste's exempt status.

- 32-6 It is an error to add both the figure for No Lease and No Surface Occupancy (NSO) because there are overlapping acreages. The only acres unavailable are the 337,510 acres described in Table 2-9, page 147 (RMP Draft EIS). Those areas described as NSO can be effectively drained by drilling from an alternate location. Over 90% of the Resource Area is available for oil and gas leasing.

Comment Responses

32-7 This is basically the procedure that is followed by the Bureau.

32-8 Development activities in sensitive areas have occurred in the past with adverse effects in some areas, although in some cases without unacceptable levels of impact. These sensitive areas, where effects were determined unacceptable or contrary to management prescription, were considered for No Surface Occupancy or No Lease options. Most of the acreage closed to leasing in high and moderate potential areas are a nondiscretionary closure, where Congress has enacted rulings that preclude fluid mineral leasing. Until Congress acts, BLM does not have alternatives to this management. Alternative B is a maximum production alternative and analyzes the positive and negative effects of increased activities and reduced mitigation. We have made every effort to develop reasonable stipulations. Exploration would be precluded only in isolated instances.

32-9 We have quantified economic impacts of applying all restrictions listed in Table 2-9. As a result of these restrictions, 28 fewer wells would be drilled under the Preferred Alternative and 32 fewer would be drilled under Alternative C, than would be drilled under Alternative A. These additional restrictions would increase costs of developing oil and gas resources but we are not able to quantify what these actual costs would be.

32-10 Thank you for your estimate of economic impact. Without doing a specific reservoir analysis of the areas in question, it is meaningless to speculate at average rates. We believe it is more reasonable to expect 32 total wells will not be drilled due to restrictions applied under Alternative C.

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AREAS OF CRITICAL ENVIRONMENTAL CONCERN - Continued

7 Rather than shutting industry out of these lands completely, I would recommend conditional leasing with provisions for occupancy based upon a site specific environmental analysis of each individual well location and the potential impacts resulting therefrom. This site specific level of analysis would allow exploration to proceed on a limited scale, and would encourage the development of advanced construction/reclamation techniques in order to mitigate impacts in these sensitive areas - as warranted by the terms and conditions of the lease agreement.

8 Time and time again, we in industry have demonstrated that oil/gas development CAN occur in sensitive areas in an environmentally acceptable manner with a minimum of long-term adverse impacts to the affected environment. Although development often proceeds at an expensive and painstakingly slow process, this is definitely preferred to the "No Lease" or "No Surface Occupancy" alternatives. Through careful planning and coordination between industry and the involved Federal Agencies, exploration and development can proceed in a manner which will best serve the national interests of this country and management goals of the GRRRA yet minimize the amount of environmental disturbance, while maximizing industry's opportunities to explore for and develop hydrocarbon reserves in the region. The DEIS should strive to develop REASONABLE stipulations designed to coordinate oil/gas exploration activities with management goals identified in the DEIS for each Area of Environmental Concern, rather than shutting exploration out completely. In this regard, I would point out that the management objective for minerals management states that:

"The objective for management of the minerals program would be to maintain or enhance opportunities for mineral exploration and development."

Clearly, withdrawing 163,990 acres of high and moderate potential lands from any future oil/gas exploration activity is not in keeping with your stated management objective.

SOCIOECONOMICS OF WITHDRAWN AREAS

9 Regarding the withdrawal of approximately 398,290 acres of mineral estate from future oil/gas exploration activity, I would point out that the DEIS fails to quantify the socioeconomic impact(s) of withdrawing these lands from possible production.

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SOCIOECONOMICS OF WITHDRAWN AREAS - Continued

10 Following is a very conservative estimate of the revenues that would be lost as a result of withdrawing these lands from exploration and the potential production of natural gas therefrom:

1. Assuming one (1) productive gas well per section (640 acre spacing) on the entire 398,290 acres of withdrawn lands, we could expect a total of 622 wells to be placed on production in the withdrawn lands.
2. Assume that each gas well would produce an average of 1,000,000 cubic feet of gas per day for a cumulative daily production of 622 MCFD.
3. Assume an average sales price of one dollar (\$1.00) per 1,000 cubic feet of gas (MCF).
4. Daily revenue generated by the production from the 622 gas wells would equal \$622,000.00 per day, which would equal \$227,030,000.00 per year (production for a full 365 days).
5. Royalty at the rate of 12.5% on the total yearly production from these 622 wells would equal \$28,578,750.00 - one-half (½) of which would be returned to the State of Wyoming.

Over the productive life of these wells, we can conservatively predict that the U.S. Treasury would receive approximately 286 million dollars, with the State of Wyoming receiving a like amount - not to mention a continued source of clean, cheap fuel that would be provided to consumers within this country.

Admittedly, the number of productive wells in these withdrawn lands is somewhat speculative; however, the ultra-conservative nature of the assumed spacing pattern, average production rates, gas sales price and projected life of the wells more than compensates for the speculative nature of my assumptions on numbers of productive wells. In all likelihood, a natural gas discovery would be developed on a minimum 320 acre spacing pattern (two wells per section) and each well could be expected to produce on the average of two million cubic feet (or more) of gas per day.

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SOCIOECONOMICS OF WITHDRAWN AREAS - Continued

- 11 Considering the strengthening market for natural gas and the increased emphasis on clean-burning fuels (and technologies), it would be reasonable to assume that natural gas prices will rise dramatically over the next twenty (20) years, with near-term prices expected to be in the two (2) to four (4) dollar range.

Consequently, potential revenues from wells within these withdrawn lands would increase on a geometric scale which would be governed by the spacing pattern, well production rates, and gas sales prices. Under these circumstances it would not be unreasonable to double or even quadruple the potential income estimates presented above. Failure of this document to fully disclose the potential revenues which would be lost through withdrawal of these lands is, without doubt, a serious omission which jeopardizes the overall integrity of this analysis.

SOCIOECONOMICS OF ALTERNATIVE B

- 12 Another serious flaw in the DEIS is the document's general failure to adequately assess or discuss the positive economic impact(s) which would result from the selection of Alternative B. This omission is most obvious in the Environmental Consequences section of the document in those discussions concerning annual perspectives for both conventional Oil and Gas (page 508) and Coalbed Methane (page 510).

The failure of the document to consider the additional revenues which would be generated under Alternative B would appear to be a deliberate attempt to withhold this information from the reader, particularly when one considers that selection of Alternative B would undoubtedly result in the generation of significant additional revenue for both the Federal treasury and the State of Wyoming. Likewise, additional drilling and production resulting from the selection of Alternative B would have a "trickle-down" effect on the local economy by:

- 1) generating additional revenues for both county and local governments,
- 2) creating jobs for the local population, and
- 3) providing a boost to local businesses through the sales of goods and services to both commercial and non-commercial consumers.

Comment Responses

32-11 When the socioeconomic tables in Appendix 10 were prepared, values of all commodities were projected from a baseline that was assumed to remain the same for the study period. This allows for more realistic comparison between commodities without having to project price variations for each commodity, over such a long period of time. We realize gas prices have increased since the original baseline projection was made, although the Oil and Gas Journal (1993, v. 91, no. 47, p. 4) projects a decrease in 1994. An assumption of future prices is not supported by any data or published projections. In addition, we are not aware of a published projection of prices, through 2010, that could be used to address additional price escalation losses due to restrictions on development.

32-12 Due to errors in some supporting data used, specifically Table 4-11, the differences in socioeconomic benefits were not great enough to indicate a large difference in relative benefit between the Preferred Alternative and Alternatives A and C. These errors have been removed and updated data have been added. The resulting socioeconomic discussion shows greater differences in economic benefits between these alternatives and economic losses that result from restrictions on oil and gas development. Of the four alternatives considered in this RMP, Alternative B has the highest output of oil and gas and, subsequently, the highest related output, income, and employment values.

32-13 See responses to comments 17-2 and 63-1.

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SOCIOECONOMICS OF ALTERNATIVE B - Continued

While Table 4-11 (page 473) provides estimates of the anticipated production which would result from implementation of Alternative B, the document fails to carry this information forward in the form of direct and indirect benefits to be derived from this additional production. This table indicates a significant increase in both oil and gas production rates over the other alternatives analyzed in the document. Don't you think that this additional production will have a positive economic impact upon the economy of the GRRRA?

As indicated above, failure of this document to fully disclose the potential revenues which would be generated through the implementation of Alternative B is, without doubt, a serious omission which further jeopardizes the overall integrity of this analysis.

OIL/GAS SOCIOECONOMIC ASSUMPTIONS

- 13 The assumptions for past, present and future oil/gas production contained in the DEIS appear to be way off base as indicated in a letter written from Don Basko, State Oil & Gas Supervisor, to the Wyoming Federal Lands Planning Coordinator on December 30, 1992 (copy attached). Obviously, if these numbers are incorrect, the entire discussion concerning the socioeconomic impacts of future oil/gas production within the GRRRA are incorrect as well.

Furthermore, the document only analyzes production through the year 2010. In this regard, a study conducted by Barlow and Haun (consulting geologists) in 1987 for the Wyoming Natural Gas Pipeline Authority indicates that the Green River Basin and Moxa Arch areas of the GRRRA contain the most significant reserves of natural gas remaining in these United States. Furthermore, this study indicates that only seventeen (17) percent of these gas reserves have been produced to date (Map 3 of study), compared with from forty (40) to sixty (4) percent of the reserves in the other large geologic basins within this country. The geologic basins included within the GRRRA, and surrounding areas, contain approximately 144.2 TRILLION cubic feet of gas, with production from these basins expected to continue for another 167 years.

Obviously these gas reserves represent a significant portion of this nation's future natural gas supply, which is predicted to last well into the twenty-second century! For the DEIS to simply ignore this fact is inexcusable.

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VALID EXISTING RIGHTS

14 Another serious problem in this document is the proposed "taking" of valid existing rights, particularly on existing leases within existing and proposed Areas of Environmental Concern (ACEC).

In particular, I refer to the following:

- 1) proposed mitigation of pre-existing oil/gas facilities and restriction of further development on existing leases within the Sand Dunes ACEC,
- 2) restriction of development on existing oil/gas leases within those lands reclassified to a VRM Class II designation,
- 3) the proposal to require the preparation of "Habitat Improvement Plans" in pre-existing oil and gas fields,
- 4) restriction of surface disturbing activities on existing leases within the Tri-State Monument ACEC,
- 5) requirements for the upgrading of pre-existing lease roads, and
- 6) application of any mitigation measures or Conditions of Approval to existing leases which conflict with management direction contained in BLM Instruction Memorandums WO-92-67 and WY-92-113.

As you are no doubt aware, existing leases within the GRRRA convey a valid exploration right to each respective lease holder. Furthermore, each lease represents a legal contract between the United States of America and the record title holder of the lease which specifically grants the lessee (or his designated operator) the "...right to drill for, extract, remove and dispose of all oil and gas deposits" in the leased lands subject to the terms and conditions of that particular lease.

The Tenth Circuit Court of Appeals in *Sierra Club vs. Peterson* (717 F. 2nd 1409, 1983) found that "on land leased without a No Surface Occupancy stipulation, the (Interior) Department cannot deny the permit to drill...once the land is leased the Department no longer has the authority to preclude surface disturbing activity EVEN IF THE ENVIRONMENTAL IMPACT OF SUCH ACTIVITY IS SIGNIFICANT. The Department can only impose mitigation measures

Comment Responses

32-14 Application of mitigation for protection of resources is not considered a taking of valid existing rights. So long as access to the mineral associated with a lease is provided, lease rights should be met. Having a lease does not always mean that production of the mineral must be at the fastest, most highly developed pace possible.

In particular, the 10th Circuit Court recognized the BLM's "tiered approach to environmental review.... is calculated to provide the most informed decision making possible in oil and gas leasing. ... When an APD is submitted, BLM has a concrete site specific proposal before it and a more useful environmental appraisal." Additionally, BLM can place Conditions of Approval on existing unstipulated leases where it is determined that such mitigation is required to prevent unnecessary and undue degradation to public lands or resources. However, the need for such mitigation must be documented in a site-specific EA. A more detailed description of these procedures is found in the appendix section of the RMP Final EIS. Additionally, the Secretary can impose "mitigation" measures upon a lessee who pursues surface disturbing activities, to take environmental values into account in carrying out his regulatory functions.

In the case of the Greater Sand Dunes ACEC, it has been determined that should production activity continue at the present rate, unacceptable adverse affects would occur to resource values in the ACEC and that the objectives established in the 1983 ACEC management plan would not be met. The prescriptions for the ACEC do not preclude activity, and access to existing leases, it just recommends limits to the level and intensity of development.

It is anticipated that visual integrity could be maintained with proper design of facilities. Please note that the lease term #6, a standard lease term, addresses mitigation of visual resources. Habitat improvement plans are not a new concept. The intent is to review developing or developed fields, and through consultation with companies, initiate reclamation of unused or unnecessary facilities such as abandoned well sites, loop roads, pipelines, etc., and conduct transportation planning and identification of necessary access facilities, with wildlife habitat and desired plant community objectives in mind.

Existing leases in the Greater Red Creek Proposed ACEC area would be honored. Much of the area has been made available for lease. The current Red Creek ACEC is the area not recommended for leasing. The purpose of this is to prevent human-caused accelerated erosion into the Colorado River System. Red Creek is known for its highly erosive and unstable soils and sediment contributions to the Green River.

Upgrading existing roads to standards for safety and watershed purposes just makes good sense, and would occur over time as maintenance of existing roads occurs. See response to comment 27-24.

See 7 paragraphs immediately preceding. The BLM recognizes that impacts would occur from surface disturbing activities. The analysis in the EIS recognizes that impacts will occur and that with appropriate mitigation, these will be acceptable. However, until we conduct a site specific analysis, determination of what is necessary and due degradation, cannot be readily determined.

We also recognize that certain activities are allowed under existing leases and that a site specific analysis must be conducted at the permit stage and support the application of conditions of approval.

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VALID EXISTING RIGHTS - Continued

14 upon a lessee who pursues surface disturbing exploration and/or drilling activities".

Cont'd The court goes on to say "notwithstanding the assurance that a later site specific environmental analysis will be made, in issuing these leases the Department has made an irrevocable commitment to allow some surface disturbing activities, including drilling and road building".

This has been reinforced in Instruction Memorandum WO-92-67 issued by the Director, Bureau of Land Management on December 3, 1991 which firmly establishes BLM policy as follows "Moreover, we cannot lose sight of the fact that these leases, regardless of the date of issue or the environmental analysis done before issuance, represent contracts between the lessee and the United States. The lease contract conveys certain rights which must be honored through its term, regardless of the age of the lease, a change in surface management or conditions, or the availability of new data or information. The contract was validly entered into based upon the environmental standards information current at the time of lease issuance".

The referenced Instruction Memorandum goes on to state that "...Because all oil and gas activities are subject to FLPMA, mitigation required to protect public lands from unnecessary and undue degradation is consistent with the lease rights granted. The caveat, however, is that... unnecessary and undue degradation implies that there is also NECESSARY AND DUE DEGRADATION". As a matter of policy, any mitigation measures "...which would render a proposed operation uneconomic or technically infeasible is not considered to be consistent with a lessee's rights and cannot be required absent a lease stipulation, unless it is determined that such mitigation is required to prevent unnecessary and undue degradation of public lands or resources..."

Regarding oil/gas exploration and development in the GRRRA, any oil/gas activity which conforms with the spacing patterns established by the Wyoming Oil and Gas Conservation Commission would represent the "due and necessary" degradation of the affected environment implied in the lease. The mere fact that other resources may be adversely affected as a result of these activities is of secondary concern if the BLM intends to honor the valid, existing lease rights of the lessee as required under existing law and subsequent policy decisions.

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VALID EXISTING RIGHTS - Continued

- 15 While it is true that the potential impacts of a project must be analyzed under the National Environmental Policy Act (NEPA), NEPA does not say that these impacts must be mitigated to non-significant levels or pre-disturbance levels. NEPA was primarily designed to identify impacts, not mitigate them away - particularly where mitigation conflicts with either existing lease rights under the "due and necessary degradation" criteria or where imposition of mitigation "... would render a proposed operation uneconomic or technically unfeasible" as defined in WO-92-67 and WY-92-113.

- 16 As indicated above, the Wyoming Oil & Gas Conservation Commission establishes spacing patterns on all non-Tribal lands within the State of Wyoming to ensure the economic recovery of hydrocarbon reserves. These spacing patterns are established after a thorough review of both downhole engineering and geologic data and result in a spacing pattern which best promotes the economic recovery of subsurface oil and gas reserves without waste. Consequently, these spacing patterns establish the standards for "due and necessary degradation" based upon the nature of the hydrocarbon resource to be extracted.

Generally speaking, oil is spaced on a forty (40) acre spacing pattern, while shallow natural gas (including coalbed methane) may be spaced on either an eighty (80) or one hundred and sixty (160) acre spacing pattern, with deeper gas generally being spaced on either a three hundred and twenty (320) or six hundred and forty (640) acre spacing pattern. Thus, a realistic definition of due and necessary degradation would key on the spacing pattern of the particular hydrocarbon resource to be produced and upon the concurrent need for the ancillary facilities (i.e., roads, pipelines, powerlines, etc.) which are necessary to economically recover this resource. Furthermore, it must also be recognized that the construction of those roads, pipelines, powerlines, treatment facilities, etc. necessary to conduct drilling and production operations also falls under the definition of due and necessary degradation implied in the lease.

By the definition contained in WO-92-67 and WY-92-113, the initial disturbance of approximately 14.3 acres (from page 478) per well location would generally represent the average level of due and necessary degradation necessary for reasonable exploration and development activities on public lands within the GRRA.

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VALID EXISTING RIGHTS - Continued

Likewise, the definition of due and necessary degradation for full field development would key upon the total number of wells (and associated ancillary facilities) which would be required to prudently develop and economically produce the hydrocarbon resource within the targeted geologic formation.

IMPACTS TO WILDLIFE POPULATIONS AND HABITAT

- 17 The Environmental Consequences section of the DEIS (page 519) states that oil/gas exploration and development would result in the loss of 20,268 acres of wildlife habitat, with much of this habitat remaining out of usable habitat for a period of twenty (20) years. However, Table 4-25 (same page) indicates that direct wildlife habitat losses are much higher (45,411 acres for the preferred alternative) and further indicates that displacement will occur from an additional 143,000 acres for the preferred alternative. Considering the overall size of the GRRA (3.6 million surface acres), the loss of approximately 0.06% or displacement from approximately 3.9% of the total available habitat in the GRRA does not seem excessive!

While I agree that big game populations may be displaced from areas of ACTIVE disturbance such as construction and drilling operations, I strongly disagree that this displacement will continue to occur after these activities cease and operations at the project site become normalized and predictable (assuming production). The assumptions presented in the DEIS are based solely upon extant published literature which attempted to quantify displacement of big game species such as elk and mule deer as a result of human intrusions (not necessarily oilfield activities). Unfortunately, these studies (i.e., Lyon 1979, Pederson 1979, Perry and Overly 1976, Lyon and Ward 1982, Reed 1981, Ward et al 1976, etc.) are all scientifically skewed in that little or no baseline information was collected on pre-disturbance levels of wildlife activity in each respective study area. Furthermore, the referenced studies generally failed to collect data on post-disturbance levels of animal activity as well. Consequently, the presumption that wildlife species would or could be permanently displaced from entire project areas (such as the Triton coalbed methane proposal in the Sand Dunes area) is conjectural at best and certainly is not founded upon established scientific fact.

Comment Responses

The spacing patterns established by the Oil and Gas Conservation Commission do not always represent necessary and due degradation. The spacing is established without site specific or cumulative analysis and is subject to change based upon new information. However, as stated before, we do recognize that there may be adverse affects to resources and that in most cases, an acceptable level of affect should be determined at the site specific analysis phase. Where impacts cannot be mitigated or conformance with management prescriptions achieved, the RMP recommends more stringent mitigation such as NSO or No Lease.

- 32-15 It is true that NEPA is mostly a procedural act with disclosure of information its emphasis. However, as you have stated, FLPMA (302b) requires that "in managing the public lands the Secretary shall, by regulation or otherwise, take any action necessary to prevent unnecessary or undue degradation of the lands."

- 32-16 No, spacing patterns do not establish standards for "due and necessary degradation." However, it is a factor considered in the assessment of "unnecessary and undue" degradation. For example, in an area where the Oil & Gas Conservation Commission has established a 160-acre natural gas spacing, environmental leasing analysis and eventual leasing decisions could restrict the pattern of surface well pads to one per 640 acres, but allow multiple wells (4 to 6) to be drilled from a single location. With today's technological advancements, this would allow the prudent development and economic production of the hydrocarbon resource. This would also comply with the intent of FLPMA (302b) in preventing "unnecessary and undue degradation of the lands." This development could represent "necessary and due" degradation. A strict definition of "necessary and due" or "unnecessary and undue" cannot be standardized. The true interpretation or meaning of "necessary and due" or "unnecessary and undue" is embodied in the NEPA process. Each action must be analyzed on its own merit and specific mitigation tailored to the land and resources for the specific locale affected to ensure no "unnecessary or undue" degradation occurs.

- 32-17 Our analysis was based upon gas field production and an active life of such field as 20 years or more (the life of the DEIS). We therefore anticipate few of the present oil and gas development areas or future fields to be abandoned during this time. Most of the big game displacement studies cited were done in arboreal habitats, whereas we have no comparative study for displacement in open sagebrush steppe habitats. We anticipate greater long-term displacement in open sagebrush habitats than chaparral or forested areas, because of lack of hiding cover.

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IMPACTS TO WILDLIFE POPULATIONS AND HABITAT - Continued

- 18 In this regard, studies conducted by Hayden-Wing Associates on the "Response of Elk to Exxon's Field Development in the Riley Ridge Area of Western Wyoming 1979-1990" indicated that elk returned to winter and calving ranges after intensive oilfield related activities (i.e., initial construction and drilling operations) ceased.

This particular study concluded that Exxon's well field activities DID NOT have a significant effect on either the total number of elk using winter ranges in the area or on the overall harvest of elk in the Big Piney herd.

Likewise, in the "Final Review and Evaluation of the Effects of Triton Oil and Gas Corporation's Proposed Coal Bed Methane Field Development on Elk and Other Species", Hayden-Wing Associates (1991) stated that "Few studies have quantitatively evaluated the responses of elk to disturbances associated with petroleum developments or the magnitude of the disturbance." The Hayden-Wing report went on to state that "Where people were absent, elk showed little response to compressors, pump stations, and generator buildings (Gusey 1986)." In summary, the report concluded that "Levels of elk decrease near well drilling activities but elk return to former levels after disturbances are reduced to benign, localized and predictable levels." This report went on to state that big game animals (i.e., elk, mule deer and pronghorn antelope) appear to habituate to most forms of human disturbances unless they are harassed and/or hunted.

Furthermore, the findings of Hayden-Wing Associates were generally upheld in a study recently conducted by the Wyoming Game and Fish Department (WGFD) on oil/gas development on crucial winter range in the Rattlesnake Hills of central Wyoming. Data gathered by the WGFD in "Responses of Pronghorn and Mule Deer to Petroleum Development on Crucial Winter Range in the Rattlesnake Hills" (Easterly, Wood and Litchfield 1992) DID NOT demonstrate displacement of mule deer from oil field related activities.

Consequently, we must realize that the DEIS document is seriously in error when it infers that big game populations would/could be permanently displaced by oil/gas exploration and development activities. As demonstrated above, these statements are completely conjectural and should be corrected in the final document.

Comment Responses

- 32-18 We agree there is a definite lack of information in regards to displacement of deer and antelope herds due to human intrusion. However, information exists that shows human presence and activities do have an affect and do displace elk. Two areas in this resource area (Nitchie Gulch and East LaBarge) were historically crucial elk winter range that have been removed from this designation. Oil and gas development is not the problem; however, human presence is. Both Nitchie Gulch and East LaBarge, along with the Steamboat Mountain area have one thing in common, lack of cover. See response to comment 27-6.

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SOUTH PASS HISTORIC LANDSCAPE

- 19 Although I have previously discussed concerns related to Areas of Environmental Concern and the socioeconomic impacts of withdrawing public lands from future oil/gas exploration and production, I feel compelled to offer some specific comments on the proposed three (3) mile wide No Surface Occupancy (NSO) buffer zone along the Oregon, Mormon Pioneer, and California Trails in the northeast corner of the GRRA. Considering that other "eligible" trail segments within the GRRA are only afforded a one-quarter (1/4) mile or visual horizon (whichever is closer) NSO buffer zone, it seems somewhat strange that the trails in this particular geographic area deserve a corridor that is twelve (12) times greater than the restrictions being recommended for trail segments in other parts of the resource area. This is particularly disturbing when one considers that access into the "restricted" area is extremely limited - at present, there are only two (2) county roads into the area south of highway 28: the Bar X and Tri-Territory Site roads. Application of a No Surface Occupancy restriction in a three (3) mile corridor either side of these trails will preclude any future access into the area and will prohibit or severely restrict development both inside and outside of the proposed buffer zone.

This is of particular concern as I currently have a client who intends to re-enter the Amoco South Pass Unit #1 abandoned well in the NW 1/4 of Section 17, Township 27 North, Range 100 West later this year and to commence a deep gas exploration program on acreage holdings in the area in conjunction with this re-entry. This withdrawal could have a serious impact upon their proposed future operations in the area. Consequently, I must protest the need for a three (3) mile wide buffer zone in the South Pass Historic Landscape - particularly when this restriction is inconsistent with both current and proposed management for historic trails in other parts of the GRRA.

Finally, I would remind your office of the rather lengthy discussion earlier in this letter regarding valid, existing rights and the doctrine of "due and necessary degradation" as it applies to existing leases within the proposed South Pass Historic Landscape. In this regard, creation of the South Pass Historic Landscape MUST NOT interfere with existing lease rights or be used as a tool for the taking of or infringement on these valid rights.

- 32-19 In the discussion of the management of this area, it clearly states that if it can be shown that operations do not interfere with the visual integrity of the trail, that it would be allowed.

South Pass warrants considerably greater protection than other portions of the Oregon/Mormon/California historical trails corridor. As you have pointed out, there are few existing disturbances and thus there is a more pristine landscape to protect. More importantly, South Pass is of national significance as documented by its designation, albeit without boundaries, as a National Historic Landmark, in 1959. This is sufficient cause for the BLM to protect the South Pass Historic Landscape to a greater degree than other portions of the historic trails corridor. As development has increasingly encroached upon the trail corridor within the GRRA, the importance of relatively pristine portions of the trail, like South Pass, becomes very important. The trail corridor in the Lander Resource Area has been designated an ACEC. This is also consistent with the Oregon-Mormon Historic Trails Management Plan.

The BLM has gone to great lengths to use new technology, in the form of a computerized 'vista' analysis to define areas of the SPHL that are visible from the trails corridor and where visual integrity should be protected. The entire purpose of this analysis was to define the maximum area where developments could take place. We welcome the energy industry to work with us to target specific areas within the SPHL for their developments. We believe both objectives can be met.

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SUMMARY

20 In summary, I would like to say that this document is poorly written and is obviously prejudiced against oil and gas exploration and development within the GRRRA - in direct conflict with your stated goal "...to maintain or enhance opportunities for exploration and development". The withdrawal of lands considered to have a high potential for oil/gas production from future exploration and development is a specific case in point.

Moreover, the application of extensive restrictions on oil/gas exploration activities as recommended in your preferred alternative (i.e., surface disturbance restrictions on 1.4 million acres and seasonal restrictions on 1.7 million acres) DO NOT appear to be an honest effort on your part to either maintain or enhance exploration opportunities within the GRRRA over the next twenty (20) years. Furthermore, proposals in the preferred alternative to impose additional (and often substantial) financial burdens on a domestic oil and gas industry that is struggling for its very survival is clearly not consistent with valid existing rights of existing oil/gas leases or with the policy statement concerning these rights and the precept of "due and necessary degradation" contained in Instruction Memorandums WO-92-67 or WY-92-113. Requirements such as:

- 1) extensive road upgrading in existing fields at costs ranging from \$25,000 to \$50,000 per mile of road;
- 2) preparation and implementation of Habitat Management Plans in pre-existing oil/gas fields;
- 3) preparation of a "visual plan of operations" in Areas of Environmental Concern;
- 4) permeability testing requirements for all reserve pits;
- 5) TCLP testing requirements for reserve and production pits based solely upon an ambiguous "...indication of hazardous waste"; and
- 6) additional mitigation of pre-existing oil/gas facilities in the Sand Dunes ACEC,

are specific cases in point, just to name just a few!

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SUMMARY - Continued

21 In point of fact, the oil and gas industry is just one of many users of our public domain lands; unfortunately, the fact that oil/gas operations are a "high visibility" use of these lands has resulted in our industry being the "whipping boy" for a multitude of problems within the GRRRA, including perceived impacts upon both soil and water resources as stated on page 515. However, the DEIS fails to recognize or admit that other, less visible, users of these same public lands may be largely responsible for degradation of soil and water resources, destruction of riparian and wildlife habitat. In this regard, I am incredulous that you would suggest that a resource use which will disturb less than 0.5% of the total land surface managed by the GRRRA Office by the year 2010 can/will be responsible for so many of the perceived problems identified therein.

As I mentioned earlier in this letter, livestock overgrazing is probably more responsible for the overall degradation of our public lands than the minerals industry, yet the livestock industry remains a "sacred cow", so to speak. Obviously this is an opinion that is shared by a good many other folks in the scientific community, including the Wyoming Game and Fish Department. The current controversy over grazing allotments, overgrazing, and wildlife habitat needs in the Kemmerer Resource Area is a good case in point.

Whether you choose to recognize the facts or not, habitat degradation through domestic livestock overgrazing, coupled with the long-term effects of total fire suppression are the two (2) primary contributors to the continued reduction in the quantity and quality of available wildlife habitat within the GRRRA. In many cases, selective grazing by domestic animals and fire suppression policies have resulted in the establishment of near mono-culture plant communities on our public lands.

Despite these facts, the BLM continues to demand mitigation for replacement and/or enhancement of miniscule amounts of lost wildlife habitat from the oil and gas industry. This "deep pocket" syndrome is slowly, but surely, driving the remaining oil/gas operators out of the Rocky Mountain Region. How about requiring the livestock industry and other users of our public domain lands (including recreational users) to fund their fair share of these replacement/enhancements projects for a change and give us a break!

Comment Responses

32-20 Thank you for your comment. This document was written following planning guidance and BLM policies on operations. This document placed all the information in one place to provide the reader with a the background to understand the oil and gas process. See response to comment 32-14.

32-21 Thank you for your comments. The GRRRA RMP not only discussed the impact (both beneficial and adverse) to the resources as required by NEPA resulting from oil and gas development, but analyzed the impacts caused by grazing and recreation use.

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SUMMARY - Continued

22 Technically, there are a number of serious omissions within the DEIS, most of which have been pointed out in the preceding dissertation. Most notable of these is a comprehensive socioeconomic analysis of the effects of withdrawing high and moderate potential lands from any possibility for future exploration or development. Likewise, the failure of this document to adequately assess the positive socioeconomic impacts of Alternative B is an error that must be corrected for the final document to have any credence at all.

23 Finally, there appear to be a great number of statistical inconsistencies within the document. In many cases, the numbers do not track throughout the document. For example:

Table 2-2 (page 97) indicates that "...avoidance or surface disturbance restrictions on 1,228,080 acres and seasonal restrictions on 1,668,440 acres would increase the costs of doing business and possibly preclude some activities."

Table 2-9 (page 150) indicates that 1,481,980 acres will be subject to oil/gas lease restrictions, and

The first paragraph on page 152 indicates that "Surface disturbance restrictions would be placed on 1,428,950 acres".

I would ask which set of numbers are correct? Similar inconsistencies may be found throughout the document. In order for the reader to obtain a true picture of the potential impacts from each alternative, the numbers must track throughout the entire document.

24 In this same regard, the letter from Don Basko and the study prepared by Barlow and Haun identify serious miscalculations regarding past, present, and future oil/gas production from geologic basins within the GRRA - which represents another serious flaw in the document from a socioeconomic standpoint.

Administratively, I feel that the BLM has failed to demonstrate the need for a new, improved Resource Management Plan. As I understand BLM policy, a change in current management is warranted only if a significant problem has been identified.

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SUMMARY - Continued

In this regard, the GRRA Office has failed to provide reasonable justification for the extensive analysis that has been undertaken in this DEIS.

25 Likewise, I can find no justification for the creation/expansion of the Areas of Critical Environmental Concern identified in the DEIS. As I understand BLM policy, one of the primary criteria for designation of an ACEC is that the area in question exhibits greater than local significance. I remain unconvinced that the DEIS has proven that the areas in question exhibit more than local significance.

SELECTION OF AN ALTERNATIVE

26 If I must choose, then I would opt for Alternative B which would provide greater opportunity for oil/gas exploration and development in the ensuing years which would result in additional revenues to Federal, State and local treasuries.

27 Unfortunately, I feel that your range of alternatives is somewhat arbitrary and is extremely limited in scope - particularly considering the overall immensity of the analysis for only three alternatives (excluding the "No Action" alternative). From my perspective, this document should undertake to analyze a much wider range of alternatives than what was originally considered herein.

CONCLUSION

I thank you for the opportunity to comment on this DEIS and would urge you to consider these statements carefully in your final analysis. Moreover, I trust that you will receive these comments in the spirit of cooperation, as they have been offered, and not as an attack upon the integrity of any individual(s) involved in the initial preparation of the DEIS document.

Sincerely,


Robert M. Anderson

RMA/lbm
Enclosures

Comment Responses

32-22 See responses to comments 32-9, 32-10, 32-11, and 32-12.

32-23 Table 2-9 has the correct figure that should track throughout the document.

32-24 See responses to comments 17-2 and 63-1.

32-25 See response to comment 28-4. Additional information has been provided in the RMP Final EIS concerning relevance and importance criteria for ACECs.

32-26 See response to comment 94-2.

32-27 See responses to comments 27-1 and 27-8. Additional alternatives were considered, but not in detail. These are listed in the beginning of Chapter 2 of the RMP Final EIS document.

March 3, 1993

Renee Dana, Team Leader
Bureau of Land Management
Rock Springs District
P. O. Box 1869
Rock Springs, WY 82902

RE: Comments -- Resource Management Plan and Draft
Environmental Impact Statement for the Green River
Resource Area, Rock Springs, Wyoming

Dear Ms. Dana:

These comments are submitted on behalf of Union Pacific Resources Company ("UPRC") in response to the published request for review of and comment on the Draft Resource Management Plan and Environmental Impact Statement for the Green River Resource Area. We will refer to the document as the "DRMP" and the Resource Area as the "GRRRA."

On behalf of UPRC, we appreciate the opportunity to provide our comments with respect to the DRMP and particularly with regard to the planning effort that has gone into the preparation of the DRMP.

UPRC is participating with other entities in the preparation of separate comments containing specific responses to the affected environment, data collection practices, and other detailed issues identified in the DRMP. The comments contained in this letter are directed towards a more pervasive issue that uniquely affects UPRC and the Bureau of Land Management ("BLM"). UPRC feels that the GRRRA is a land management area containing unique characteristics that must be recognized and accommodated in the Resource Management Plan. Those unique characteristics include, among others, (i) probably the most valuable accumulation of mineral and energy resources in such a small area in the world, and (ii) an area of checkerboard land ownership in which no one land owner controls a majority interest and no single governmental entity has a majority of the planning responsibility. Our review of the DRMP indicates that those unique characteristics have not been adequately addressed in the DRMP and we feel that the DRMP must be substantially modified to more adequately accommodate those unique characteristics.

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OVERVIEW

1 In order to visualize the substance of the issues addressed in these comments, we suggest that the BLM unfold "Map A - Land Status" and post it on the wall. As you view the map, you will see that rather than a single land ownership pattern in which the BLM is the controlling force, there are several patterns within the GRRRA. Obviously, the area of concern addressed in these comments is the land area of checkerboard ownership stretching from East to West across the entire GRRRA in which the BLM administered lands constitute less than 50 percent. As land managers, both UPRC and the BLM must acknowledge this unique land ownership pattern and work together to effectively administer those lands. If this does not occur, then neither of the land owners will be able to effectively accomplish land management on their own lands separately.

REQUEST FOR EXTENSION

2 UPRC believes that the issues discussed in these comments will have a substantive impact on the DRMP and that additional comments and communications are needed to adequately explain UPRC's position. In order to adequately address these issues, UPRC requests that the BLM extend the public comment period for at least ninety (90) days. During this period, it is suggested that it might be appropriate to convene a meeting at which representatives of the BLM, UPRC, the State of Wyoming and the affected counties could discuss the fundamental and unique issues identified in this letter.

COORDINATION

3 The statutes and the regulations impose upon BLM the obligation to engage in a coordinated planning effort. The coordination process contains several critical elements which UPRC believes have been ignored in the DRMP with respect to the block of lands in which the BLM owns less than 50 percent and as to which the BLM cannot by its own separate action dictate future activities. While we recognize the BLM has engaged in the "Consultation and Coordination" described at pages 613 through 620 of Volume 2, we do not believe that effort satisfies the requirements of the regulations under the circumstances. The following briefly reviews certain elements of the required coordination effort and the inadequacies in the DRMP.

Comment Responses

33-1 The existence of checkerboard lands was recognized at the beginning of the planning process and is documented in the MSA, on file in the Green River Resource Area Office, and the Affected Environment chapter of the RMP EIS. Also recognized as part of the first tier of the planning system are laws and policies (section 1323(b) for the Alaska National Interest Lands Conservation Act, and BLM Manual 2801.49) that direct the BLM to provide access to private lands surrounded by public lands managed under FLPMA. Actual degree of access, routing, and design would be determined through site specific analysis. Also considered were the good coordination and working relationships we have on the checkerboard. To date we have not initiated any action to deny access and use of these private lands, and none is anticipated.

33-2 This has been done.

33-3 Consultation on issues, mineral development, and potential were initiated early in the planning process. More detailed information of the types of consultation and related responses are on file in the Green River Resource Area Office.

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§ 1610.3-1 -- Coordination of the Planning Effort

4 The regulations at § 1610.3-1(a) impose upon the BLM the duty to assure that consideration is given to those plans of other governmental agencies that are germane in the development of resource management plans for public lands and to assist in the development of resource management plans for public lands and to assist in resolving, to the extent practicable, inconsistencies between Federal and non-Federal government plans. The objective of that consideration is to identify those proposed decisions which may have a "significant impact on non-Federal lands."

5 UPRC owns and must administer as much if not more lands than the BLM administers in a substantial portion of the GRRA. Even though UPRC might not qualify as a "non-Federal government" in the strictest sense, it clearly holds a land position that requires significant planning and coordination. UPRC submits that the BLM must coordinate its planning decisions with UPRC under this regulation because of the "significant impact on non-Federal lands" these decisions will have. It simply is not adequate to refer to this issue in footnote 6 on page 9 and believe it has been addressed. The required coordination must address issues ranging from vehicle access to wild horse management and from sensitive plant species management to coal production levels. UPRC stands in the unique position that its actions can effectively prohibit the accomplishment of the BLM's planning efforts if those efforts do not recognize UPRC's rights and interests.

§ 1610.3-2 -- Consistency Requirements.

6 The regulations also impose the requirement that BLM plans "shall be consistent" with official resource-related plans of other governmental agencies to the extent consistent with Federal laws and regulations. UPRC has dealt extensively with local government, particularly the counties, in the development of its lands. Our review of the DRMP does not indicate that the level of involvement anticipated in the regulations has occurred either with the counties or with UPRC in its unique position as a dominate landowner. While we recognize that Federal law preempts certain activities that could be carried out on UPRC lands, we do not believe that the BLM can ignore the plans and policies of either the counties or UPRC in its consistency analysis.

7 We also point out that the time given for review of the DRMP is simply not adequate to allow the counties or UPRC to effectively identify all of the inconsistencies that might

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exist between their plans and those described in the DRMP. Adequate time and opportunity must be given to UPRC, the counties and Governor of the State of Wyoming to allow the full process of § 1610.3-2(a) to occur.

RESOURCE PLANNING PROCESS

In addition to the coordination required by the regulations, the regulations contain an extensive outline of the resource planning process. UPRC believes that the DRMP is inadequate in the planning process in at least the following areas:

§ 1610.4-1 -- Identification of Issues.

8 As specified on page 9 of the DRMP, issue identification is the first step of the nine-step BLM planning process. The regulations, in fact, require the District Manager to analyze both public comments and "available district records of resource conditions, trends, needs and problems," as the District Manager selects topics and determines issues to be addressed in the process. UPRC submits that a review of the issues used in the formulation of the DRMP does not reveal any issues related to the unique circumstances created by the existence of the checkerboard ownership pattern. Due to this inadequacy, UPRC believes that certain issues have been left out of the planning process which must be included in order for the DRMP to adequately address the planning issues and provide the necessary environmental and regulatory support for future decisions. Among the issues UPRC suggests should be considered are those relating to the impact of land ownership patterns on the ability to plan, the impact of land ownership patterns on access and implementation of BLM decisions, and the impact on recreation and cultural resource management decisions created by the checkerboard land ownership pattern. Without a detailed analysis of the issues created by the checkerboard land ownership pattern, both the draft IS and the DRMP must be considered inadequate for the intended purpose.

9 Another significant issue that is not addressed by the DRMP relates to the appropriate planning unit. The BLM has apparently identified the GRRA as a planning unit because of the artificial geographic boundary created by the BLM administrative districts. The "resources" discussed in the plan do not adhere to such artificial boundaries. UPRC suggests that the checkerboard land ownership area might be segregated as a much more effective planning unit than the GRRA as a whole.

Comment Responses

33-4 You are correct and this is something that we strongly enforce.

33-5 Footnote 6 to Table 1-1 refers to the fact that the Bureau of Land Management does not have the legal right to plan for the management of privately held or State/local government held lands. We have made considerable effort in this plan to consider the rights of adjacent landholders. These efforts include recommending the opening of the area around Rock Springs to mineral leasing, increasing the acreage planned for coal leasing, dropping the checkerboard land pattern from the boundary of the Red Desert Watershed Area, not designating right-of-way corridors through the checkerboard, and proposing the acquisition of legal access to ACECs. We are mandated by law to protect such resources as air quality, cultural and historical resources, floodplains, threatened and endangered species, water quality, wetlands and riparian zones, wild and scenic rivers, wilderness areas and areas of critical environmental concern. It is our policy to cooperate with all landowners within those legal constraints.

Pursuant to Section 1323(b) of ANILCA (16 USC 3210), the Bureau is required to allow access to nonfederally owned land surrounded by public land managed under FLPMA, as necessary to secure to the owner the reasonable use and enjoyment thereof. Access necessary for the reasonable use and enjoyment of the non-federal land cannot be denied, so long as the landowner complies with the authorized officers rules and regulations.

Yes, we agree that there is a need for further consultation and coordination and we are planning future contact with UPRC.

33-6 We have not ignored other agency plans. We consulted and coordinated with other agencies and we feel that to the extent practicable we are consistent with existing plans.

33-7 We received several similar requests and we did extend the comment period to allow adequate time for the public to respond.

33-8 See response to comment 33-3. Also, impact analyses in the document have been updated to clarify affects to private lands. We do recognize the uniqueness of the checkerboard. However, when we initially asked for information and issue identification the checkerboard was not identified as an issue.

33-9 The planning unit that was followed in the plan was decided upon based on BLM administrative units. We realize that resources do not follow administrative boundaries and the BLM is currently reviewing changing boundaries to include ecosystems. Although, for this plan the direction we had was to complete a land use plan for the GRRA, which included combining two plans (Big Sandy MFP and Salt Wells MFP). From the UP's standpoint, a plan covering all of the checkerboard would be ideal, but there are other ways that agreed upon management could occur such as through a cooperative agreement.

- 10 A final issue that should be addressed in the DRMP relates to the favorable economic impact that can be achieved through a coordinated resource development planning effort. While the DRMP does identify certain economic impacts related to resource development, the relationship between county economic growth plans and UPRC resource development is not carefully considered. Such issues should be identified and addressed in the DRMP.

§ 1610.4-4 -- Analysis of the Management Situation.

- 11 Another activity fundamental to the planning process imposed by the regulations is the duty of the District Manager to analyze the inventory data and other information available to determine the ability of the resource area to respond to identified issues and opportunities. In analyzing the "management situation," the District Manager is required to consider a number of factors. Our review of those factors indicates that the DRMP fails to adequately assess the impact of the checkerboard land ownership pattern on the ability of the BLM to carry out planning objectives. As an example, how can the BLM adequately evaluate the opportunities to meet goals and objectives defined in national and state Director guidance without a coordinated planning effort with the entity owning as much or more of the land within a given area than the BLM? Similarly, how can the BLM adequately evaluate resource demand forecasts and analyses relevant to the resource area without having carefully reviewed those forecasts and analyses with the entity owning as much or more of the resource than the BLM?

- 12 It is obvious from a review of the description of the "affected environment" contained in the DRMP that the available resources do not follow either property boundary lines or BLM determined administrative districts. With Map A on the wall in front of you, we invite you to review the entire package of maps contained in Volume 1 of the DRMP. Virtually none of those maps disclose the land ownership pattern. This includes everything from "Seasonal Restriction Areas" (Maps 16, 33, 42 and 51) to "Wild Horse Herd Management" (Map 25). Thus, when the DRMP indicates that it "will not include any planning and management decisions for areas where the land surface and minerals are both privately owned" (P. 9), it reflects the fact that the DRMP does not adequately analyze the management situation. Within the checkerboard land ownership pattern, any BLM decisions will affect privately owned land and any decisions of the private landowner will affect the BLM planning and management decisions.

- 13 The failure to consider the land ownership pattern also means that the DRMP has not adequately considered, among other things, either the opportunities to resolve public issues and management concerns or the degree of local dependence on resources from public lands. Both of these are factors to be carefully evaluated in the analysis of the management situation by the District Manager.

§ 1610.4-5 -- Formulation of Alternatives.

- 14 Another of the critical purposes for the DRMP is the development of "all reasonable resource management alternatives." We have carefully reviewed the content of the description of the various alternatives and the detailed listing of "management objectives" as contained in the DRMP. Virtually without exception, it is impossible for the BLM to obtain its management objectives within the area of the checkerboard land ownership pattern without the assistance and cooperation of UPRC and other private landowners. While we believe this applies to each of the management objectives, one or two simple examples should be adequate. At page 19 under the discussion of the preferred alternative, the DRMP discussed "candidate plant species management." The DRMP then specifies that the management objective is:

The objectives for management of plant species that are candidates for listing as threatened or endangered would be to prevent destruction or loss of the plant species communities and important habitat and to provide opportunities for enhancing or expanding the habitat.

- 15 As mentioned previously, resources within the GRRA do not follow property boundary lines. It is virtually impossible for the BLM to effectively achieve this candidate plant species management objective without the help of UPRC within the checkerboard land ownership area. However, nothing is said in the DRMP about coordination or consultation with private land owners even though at least one of the potential habitats for candidate plant species is contained within the checkerboard land ownership pattern.

Another example is found under the heading "Cultural, Natural History, and Paleontological Resource Management." Again, the management objectives are set out and management actions are listed. However, in reviewing materials found under the heading "Historic Trails," it is obvious from Map 5 that those historic trails traverse the checkerboard land ownership pattern. The text describes various management

Comment Responses

- 33-10 Since publication of the RMP Draft EIS, BLM has a staff representative on the Sweetwater County Land Use Committee to more closely integrate and coordinate county plans and needs with BLM planning efforts. BLM meets annually with County Commissioners in the Resource Area to discuss plans, solve problems, and generally communicate about a variety of issues affecting both the individual counties and BLM public lands. Currently, the Sweetwater County Land Use Plan is being rewritten. Upon completion it will be considered by BLM. Long-term individual company growth plans related to resource development are often either not offered to BLM or are considered "proprietary" information. Economic information offered openly in the public arena is considered. Also see response to comment 28-8.

- 33-11 The Final EIS will assess the impact of the Green River RMP on the checkerboard land ownership. We agree that BLM and private landowners in the checkerboard should cooperatively decide upon how we are going to meet future needs. It would be beneficial to all parties to develop a cooperative agreement on how we will operate in this important area.

- 33-12 The maps in the document were displayed in a manner so that it would be easier to see and understand. Our intention was to have the reader refer to the explanation in order to separate land ownership.

- 33-13 BLM has no authority to do planning on private lands. The GRRA RMP provides for only future management of public lands. Those of us working here in the GRRA do respect private lands and do understand the importance of working cooperatively with private landowners and hope that the private landowners have a similar attitude.

- 33-14 See responses to comments 33-1 and 33-3. As stated previously, we do recognize the checkerboard. The RMP Draft EIS is also a vehicle for consultation and coordination with all interested parties. Generally, consultation and coordination with private land owners takes place at the permit or site specific action level. We look forward to continued working relationships with UP on future actions. Management prescriptions in the RMP apply only to BLM-administered lands and resources.

- 33-15 See responses to comments 33-11 and 33-14.

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activities that would be intended to be utilized in connection with those historic trails. A brief review of those materials clearly indicates that without a cooperative effort from private landowners, the objectives of the BLM cannot be accomplished. Again, it is submitted that the DRMP must more fully and adequately evaluate the relationship between the BLM and the adjoining landowners in order for the DRMP to adequately accomplish the requirements imposed by the regulations.

COOPERATIVE EFFORT

- 16 UPRC submits that the DRMP should contain, as a part of the planning process, a description as to how the respective landowners will be able to accomplish their management objectives. In this regard, UPRC is recommending that the area of the checkerboard land ownership pattern should be segregated in the final resource management plan and be subject to a totally separate planning and decision-making process. UPRC suggests a formal Memorandum of Understanding be entered into among the BLM, UPRC, the State of Wyoming and the counties concerning both the planning and decision-making process. Under this circumstance, UPRC would be allowed to move quickly in its decision-making process as to its land use decisions while still accommodating the management objectives set out in the plan for the GRRRA. UPRC believes that the implementation of such a cooperative effort could potentially avoid future conflicts that might otherwise arise. In this regard, UPRC is particularly concerned with the implementation of a permitting and approval process that will allow resources available within the GRRRA to be developed and utilized in response to market demands while still recognizing the mutually agreed to land management planning objectives. Such a cooperative effort will hopefully also avoid the potential for extensive litigation that might otherwise arise in connection with issues concerning the taking of private lands to accomplish Federal purposes. Such a cooperative effort has the potential to allow the adjoining landowners to arrive at a land management plan that will truly represent the goals and objectives of all of the owners.

Comment Responses

- 33-16 We agree that an MOU or some type of cooperative agreement would be beneficial to all parties. This was discussed at our meeting with UP Resources and we agreed it should be pursued. BLM has no management authority over private lands, but will work cooperatively with interested land holders.

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CONCLUSION

UPRC submits:

1. The period for public comment under the GRRRA DRMP should be extended to allow full and adequate consideration of the comments contained in this letter.
2. The DRMP must be substantially revised to adequately address the requirements of the regulations as they apply to the portion of the GRRRA containing the checkerboard land ownership pattern.
3. The BLM, UPRC, the counties and the state should enter into a cooperative effort in relationship to the area of the checkerboard land ownership pattern in which there is a segregated procedure for both land management and decision-making.
4. The BLM should consider the extension of this concept to all of the planning areas within the State of Wyoming containing a similar checkerboard land ownership pattern.

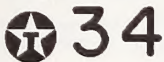
We trust the foregoing comments will be helpful to you as you evaluate the adequacy of the DRMP. We welcome the opportunity to meet with you and discuss the content of these comments in greater detail. We also would be happy to work with you in the formulation of a Memorandum of Understanding to accomplish the objectives outlined above.

Sincerely,



Edward N. Gladish
Director, Government Relations

ENG:jf



Texaco Exploration and Production Inc.

P.O. Box 46613
Denver CO 80201-6513

April 19, 1993

**Green River RMP/DEIS
Green River Resource Area**

Mr. Renee Dana, EIS Team Leader
Bureau of Land Management
Rock Springs District
P.O. Box 1869
Rock Springs, Wyoming 82902

Dear Mr. Dana:

Texaco has reviewed the Resource Management Plan [RMP] and Draft Environmental Impact Statement [DEIS] for the Green River Resource Area [GRRA]. We offer the following comments:

Oil and Gas Potential

1 Texaco believes that BLM's estimate of oil and gas potential for the GRRA is underrated. The areas rated "moderate" and "low" [map 75, page 471] should each be rated one step higher. In fact, Texaco sent the BLM written comments on August 4, 1989 in response to an **Oil and Gas Potential Assessment** noting that many of these areas rated low to moderate should be rated moderate to high.

The BLM considered coalbed methane potential in its analyses [map 76-78, page 475-477]. However, tight sands gas potential in the study area was not addressed. Published papers by USGS geologists and others since the mid 1980's document significant potential from these reservoirs. New drilling and completion technology make these targets economical and several operators are currently exploring for tight sands gas in the GRRA.

The GRRA is highly productive for oil and gas. Cumulative production from these fields through December, 1989 is 169.6 MMB of oil and 63 TCF of gas. Over 3,000 wells have been drilled in this area from the period 1900-1990. Texaco has been an active explorer and producer in the Green River Basin, having drilled over 500 wells since 1920. We currently have production in Table Rock, Patrick Draw, Beacon Ridge, Luckey Ditch, and the Swan-Blue Forest-Lincoln Road fields and will continue to focus on the GRRA as a significant area for exploration and development.

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Texaco also has a substantial productive acreage position in the GRRA with 67 leases [mostly federal] wholly or partially within the study area, totaling over 43,000 gross acres.

2 Given the oil and gas potential and significant level of exploration and production activity in the GRRA, there is little emphasis in the RMP/DEIS on encouraging oil and gas development. Rather, the focus is skewed in favor of protecting surface resources. Our nation is overly dependent on foreign energy sources and the U. S. economy is struggling due to significant trade and budget deficits. The federal government must seek ways to increase federal revenues while curtailing our trade deficit by seeking more balance between resource development and protection of natural resources.

Wilderness Study Areas

3 There are 225,000 acres in the GRRA already unavailable for oil and gas leasing because they are designated as Wilderness Study Areas [WSA's]. Given the potential for oil and gas in the area, BLM should, wherever possible, make areas outside WSA's available for leasing with reasonable restrictions. Moreover, the BLM should document in every case the need for limiting access [NL or NSO].

4 The BLM has recommended 98,600 acres in the WSA's as suitable for wilderness. If Congress concurs with this recommendation, 126,400 acres should be released for multiple use and made available for leasing in the near future. This should be addressed in the RMP/DEIS, the primary GRRA planning document for the next 15-20 years.

Range of Alternatives

5 The range of alternatives in the RMP/DEIS is limited. The plan should analyze a broad range of management approaches by which the public can compare different management objectives. For example, there is no alternative that would lease the entire GRRA [excluding WSA's] with standard terms and conditions. This RMP/DEIS reflects an assumption by the BLM that a high level of restriction on oil and gas activities is necessary no matter what alternative is used.

Preferred Alternative

6 Under the Preferred Alternative, No Leasing [NL] and NSO restrictions would increase by over 400% from the current management approach. Yet, the BLM presents no data to justify such restrictions on oil and gas activities. It is BLM's policy to show the need for such constraints in planning documents and to demonstrate that less onerous measures were considered but found insufficient to protect the resources identified. This is not evident in the RMP/DEIS.

Comment Responses

34-1 See response to comment 63-1.

34-2 See responses to comments 28-4, 28-6, and 32-15. We disagree that the RMP EIS is skewed. Oil and gas leasing has occurred historically in the Green River Resource Area and is expected to continue. However, the BLM is charged with management of all resources, and policy requires that mitigation for development activities (not just mineral development) be identified to the extent possible in the land use plan.

34-3 One of the purposes for this planning effort is to provide the documentation for justification for leasing and of stipulations that are placed on leases. These criteria and documentation were in the plan. Approximately 90% of the resource area is open to oil and gas leasing.

34-4 Wilderness management was not addressed in the Green River RMP Draft EIS because it was addressed in two other documents, the Rock Springs District Final Wilderness EIS (August 1990) and the Adobe Town-Ferris Mountains Final Wilderness EIS (December 1987). When Congress makes decisions regarding the WSAs in the planning area, they will be incorporated into the Green River RMP. The lands not designated as wilderness would lose their identity as Wilderness Study Areas (WSAs) and would be managed along with the adjoining land area as prescribed in the approved Green River RMP.

34-5 The BLM provided a production alternative in which we removed all the restrictions placed on oil and gas that were not required by law. We are required to consider only reasonable alternatives.

34-6 The no lease and no surface occupancy restrictions do not increase 400% over current management. See responses to comments 27-1, 27-8, and 30-3.

Texaco has particular problems with the following restrictive categories addressed in the Preferred Alternative:

ACEC's

- 7 The BLM is proposing to establish six new Areas of Critical Environmental Concern (ACEC) in areas of significant oil and gas potential. Yet there is no documentation that these areas meet BLM designation criteria [see BLM Manual Section 1613] requiring specific relevance and importance. The restrictions imposed are also excessive.

We especially object to the following two ACEC's:

- 8 • BLM would withhold leasing in Steamboat Mountain [43,010 acres] pending a more site specific analyses [page 84]. The BLM should make this area available for leasing as soon as possible. If possible intrusion into mountain elk winter habitats is the primary concern, seasonal restrictions will adequately ensure suitable elk habitat.
- 9 • The Tri-State Monument Area ACEC [50,120 acres] would be closed to leasing. Rights of ways would also be closed in this important corridor area, potentially restricting pipeline activity. This area supersedes the existing Red Creek ACEC as well as Sage Creek and Current Creek watersheds and has significant oil and gas potential. Restrictions in the Red Creek area will impact Texaco exploration and production activities. Such restrictions are unnecessary with proper mitigation.

Candidate Plant Species and Habitat

- 10 The BLM's management proposal for candidate plant species is too restrictive. It does not reflect an evaluation of all available management options for ensuring the viability of the plants and their habitat areas.

The BLM would close leasing on 440 acres for candidate species and impose NSO on 36,550 acres of "potential" candidate species habitat with no evidence that such species is present. The BLM must operate on the basis of the "best available scientific data". Unless there is a scientific basis for candidate species and habitat designation as well as justification for NSO restrictions, the BLM must consider less onerous management options.

Flood Plains

- 11 Flood plains [94,660 acres] are also designated as NSO and could represent a serious impediment to exploration activities in the Big Sandy, Green River, and Bitter Creek drainages. The DIES admits that BLM data is incomplete. Such restrictions are unnecessary to protect the flood plains. Less restrictive approaches should be considered.

South Pass Historic Landscape

- 12 South Pass Historic Landscape designates 5,260 acres as a landmark and 50,330 acres as a 3 mile visual buffer zone around the landmark. All of this area would be designated NSO but "open to consideration of leasing." What criteria would have to be met to open this area to leasing and how would leasing be triggered?

Texaco has no problem with protecting an historic landmark but does object to broad buffer zone restrictions around the landmark. This category includes excessive restrictions and needs clarification, particularly in the area of transient geophysical operations.

Visual Resource Management [VRM]

- 13 The BLM states that a program to improve the visual quality of existing oil fields will be adopted, but no details of this program are in the planning documents. The BLM should work closely with operators in the area to ensure that a reasonable approach is implemented. The Visual Resource Management Rehabilitation Area includes a portion of Texaco's Table Rock field. We are concerned with possible impacts on exploration and production activity within this field.

Geophysical Activities

- 14 Current requirements imposed on geophysical operators through the permitting process provide adequate protection to surface resources. The BLM disregards this fact and imposes numerous additional burdens on such operators without demonstrating such burdens are necessary.

Some examples of unreasonable restrictions on geophysical operations are:

- geophysical operations would be subject to the same restrictions as off-road vehicle [ORV] travel [over 150,000 acres would be closed to ORV travel to protect "naturalness" and other resource values].
- geophysical travel through recreation sites would be restricted to existing roads and trails.
- geophysical activity would be limited within 1/4 mile of "visual horizons of historic trails"

There is an exception for "necessary tasks", but no guidelines are defined that would enable the operator to determine if he falls within the exception. In fact, the operator would have to apply for such exception. This is an unnecessary burden on the geophysical operators.

Comment Responses

34-7 See response to comment 28-24.

34-8 See response to comment 27-17. The area is currently leased.

34-9 Only the Red Creek portion of the Greater Red Creek Proposed ACEC (renamed from Tri-State) is recommended for closure to leasing. It also has low potential for oil and gas. Because of the highly erosive nature of Red Creek, mitigation has been unsuccessful to date, and most of the erosion has been attributed to pipelines and roads. We feel that an alternative route for such facilities closer to Flaming Gorge Reservoir would be more appropriate. Although this route would be a little longer, mitigation and reclamation costs would be much less. Also see response to comment 27-18.

34-10 The No Surface Occupancy and No Leasing proposals for Candidate plant locations are based on field surveys done by professional botanists. See response to comment 29-8.

34-11 Exclusion of permanent structures in floodplains is national policy (Executive Order 11988, 5/24/77).

34-12 Any lease issued within the South Pass Historic Landscape would have to contain some lands that would be accessible to the lessee for development purposes. In the remaining areas within a lease, any areas visible from the trails would be closed to surface disturbing activities that would adversely affect the viewshed.

Vibroseis type activities would not occur within 300 feet of the historic trails. Shothole activity would not be allowed along the trails. Other geophysical operations would be allowed within the historic trails corridors if site specific analysis determines that no effects adverse to the visual integrity of the trails would occur.

There is obviously some misunderstanding of the South Pass Historic Landscape management as related to the already existing, but unboundaried South Pass National Historic Landmark. The Landscape surrounds the historic trail, not the landmark. See also responses to comments 27-13, 28-21, and 32-19. Regarding geophysical operations specifically, please see response to comment 27-13.

34-13 See response to comment 27-21.

34-14 See response to comment 27-9.

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Wild and Scenic Rivers

- 15 Wild and Scenic River areas would be closed to leasing within 1/4 mile of the centerline of the river. While these areas do not have significant oil and gas potential, we are concerned with the precedent that such an approach sets for areas that may have such potential in the future. We suggest that a Conditional Surface Use stipulation would be adequate to protect surface resources in these areas.

Waivers, Exceptions, Modifications

- 16 All alternatives addressed in the DEIS provide for Waiver, Exception, or Modification [WEM] of stipulations or restrictions if further site-specific analysis indicates such restrictions are unnecessary due to change in conditions or mitigation. The BLM may also impose greater restrictions through "Conditions of Approval" [COA's] if concerns are later identified which necessitate such restrictions, provided valid existing lease rights are recognized.

The criteria for granting WEM's are too general; they should provide information that will enable the lessee/operator to determine when such restrictions may be waived, etc. For example, the Weather Severity Criteria should describe how deep the snow or thick the crusting must be, and how long the snow must be present before a waiver or exception may be granted.

- 17 With regard to COA's containing seasonal restrictions in areas with leases that have no seasonal stipulations, such restrictions may violate valid existing lease rights unless it can be shown there is undue degradation to surface resources [see Big Piney/La Barge Coordinated Activity Plan Protest Decision - October 21, 1992].

Environmental Consequences

- 18 Chapter 4, Environmental Consequences, contains excessive surface disturbance scenarios. For example, the road figures assume all access roads will be paved with a 40 foot wide disturbance area. This assumption is due to BLM requiring wide surfaced access roads to well sites. This is an unnecessary requirement since the public rarely uses these roads. Thus, increased restrictions are based on surface disturbance directly resulting from unnecessary BLM requirements.

Another example of an unrealistic assumption is the description of an average size well pad as 3.5 acres. A more accurate estimate would be 1/2 acre for a producing well and 2-3 acres for an exploratory well [this depends primarily on the depth of the well].

Alternative B

- 19 Texaco's first preference for a management approach would be to use only standard terms and restrictions which should be adequate to protect all surface resources. Unfortunately, none of the alternatives reflect this approach. Of the alternatives discussed in the DEIS, Texaco's second preference is Alternative B, the least restrictive alternative discussed in the DEIS.

Comment Responses

34-15 See responses to comments 27-19, 27-20, and 30-21.

34-16 See response to comment 30-7.

34-17 Any stipulation that results from a COA will be documented in an environmental analysis and have supporting data.

34-18 See response to comment 27-24. We made no assumptions about paving any access roads. We do not believe that any roads would require paving. On access roads, it was assumed that a 40-foot width of surface disturbance would result from performing the grading operations necessary to prepare a 16-foot-wide travelway. This 16-foot-wide travelway is the general standard in the Resource Area for all access road widths.

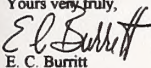
A review of recently constructed well pads in the Resource Area, including both shallow and deeper tests, indicated that 3.5 acres of surface disturbance was very reasonable. Producing wells now being drilled are deeper wells and require about as much surface disturbance as a typical exploratory well. Three and one half acres of disturbance is only short-term disturbance. After completion, 2.5 acres is immediately reclaimed and the remaining one acre remains disturbed until the well is abandoned.

34-19 Thank you for your comment. BLM is a multiple use agency, and the alternative selected balanced these uses. The preferred alternative provides for the orderly development of the mineral resource, with 90% of the resource area open to oil and gas leasing.

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If you need further information, please contact Mr. Terry Belton at 303/793-4371. Texaco appreciates this opportunity to comment.

Yours very truly,


E. C. Burritt
Chief Geologist

TMB:



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26 February 1993

Renee Dana, Team Leader
Green River RMP
Bureau of Land Management
P.O. Box 1869
Rock Springs, Wyoming 82902-1869

Green River Resource Area Resource Management Plan and Draft
Environmental Impact Statement

Amoco Production Company, a subsidiary of Amoco Corporation, is incorporated for the purpose of exploring for and developing oil and gas resources. Amoco has conducted operations in south central and southwestern Wyoming for many years and has leases and joint ownership in existing wells in the area. Therefore, management policies outlined in this draft EIS could have an effect on Amoco's interests in the area.

The Green River Resource Area (GRRA) is an important area for oil and gas exploration and development, and Amoco supports the Bureau of Land Management's (BLM) efforts to comply with the National Environmental Policy Act (NEPA). We also appreciate the opportunity to comment on this draft Environmental Impact Statement (EIS).

- 1 One of the items of concern to Amoco is that BLM has not presented sufficient data to justify increasing restrictions on oil and gas exploration and development. It must be shown in BLM planning documents that the constraints considered are necessary and that less restrictive measures were examined but found insufficient to protect the resources identified. A statement that there are conflicting resource values or uses does not justify applying restrictions.
- 2 The criteria for granting waivers, exemptions and modifications to restrictions should be more specific. Examples or additional information should be provided for the Weather Severity, Habitat Condition and Availability, Site Location and Timing Criteria. We realize that the BLM cannot

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list every possibility, but some attempt to describe "waiverable" scenarios should be made.

- 3 With regard to Conditions of Approval (COA), the BLM needs to change the wording on page 711 to read "If a restrictive COA is specifically determined to be reasonable...mitigating measures must be considered ...". This sentence currently reads "...determined to be unreasonable...", which does not make sense.
- 4 Another concern we have is with cultural resource sites. The preferred alternative allows no surface disturbing activities on approximately 17,500 acres, an increase of 10,900 acres over the current 6,600. This large increase is not justified in the draft document.
- 5 Under Hazardous Materials and Other Hazards, the draft EIS states "Any produced water pit or drilling fluid pit that shows indications of containing hazardous wastes would be tested for the TCLP constituents and if analysis proves positive, the fluids would be disposed of properly." These "indications" need to be more clearly defined, and accountability for observing such indications should be established. Also, Amoco reminds BLM that exploration and production wastes are exempt from hazardous waste status under the Resource Conservation and Recovery Act (RCRA).
- 6 The preferred alternative proposes to manage geophysical activities in the following ways:
 - * Geophysical operations will be subject to the same restrictions as off-road vehicle (ORV) travel.
 - * Geophysical travel through developed and semi-developed recreation sites would be restricted to existing roads and trails.
 - * Geophysical activity would be limited within 1/4 mile or visual horizon of historic trails.
 - * 20,935 acres would be closed to ORV travel to protect other resource values.
 - * 137,672 acres would remain closed to ORV use to protect naturalness.
 - * Seasonal restriction would be applied to 128,010 acres.
 - * Vehicular travel would be limited to designated roads on 295,740 acres.
 - * Vehicular travel would be limited to existing roads and trails on 3,180,353 acres, the remainder of the GRRA.
 - * Some types of motor vehicle use would be allowed under the "necessary tasks" work exemption provided resource damage would not occur.

Industry currently complies with a geophysical operations permitting process which adequately protects surface resources. These proposed changes in management appear to be arbitrary and should be eliminated. At a minimum, "necessary

Comment Responses

35-1 We believe the Impacts and Environmental Consequence sections provide the data needed to justify restrictions. See responses to comments 27-1, 27-8, and 30-2.

35-2 See response to comment 30-7.

35-3 See response to comment 27-3.

35-4 The increase in acreage is due to new information acquired since the MFP was written in 1982 (e.g., candidate plants, new cultural sites) and application of new policy direction. A portion of this acreage is a result of consultation with Indian tribes for future use under the Native American Religious Freedom Act. Modifications to areas and acreage have been made in the RMP Final EIS.

35-5 See response to comment 10-11.

35-6 See response to comment 27-9.

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tasks" for which an exemption could be obtained should be more clearly defined.

7 In the Watershed/Soils Management section of the preferred alternative it is stated "Where groundwater was less than 100 feet in depth from the surface and with a permeability of no more than 0.1 foot/day, plants, mills or associated tailing ponds and sewage lagoon would not be allowed." For clarity, the wording should be changed to "Where depth to groundwater is less than 100 feet and soil permeability is more than 0.1 foot/day,...". Also, do "plants" include compressor sites? Do "tailing ponds and sewage lagoons" include reserve pits?

8 It is also stated in this section that "Surface disturbing activities ... that could adversely affect water quality, wetland and riparian habitat, would avoid the area within 500 feet of or on 100-year floodplains, wetlands, or perennial streams and within 100 feet of the edge of the inner gorge of intermittent and large ephemeral drainages." Maps delineating 100-year floodplains for many of the Resource Area sites potentially selected for development do not exist. The BLM should establish criteria to be used in determining 100-year floodplains on a case-by-case basis. This should be done in cooperation with other appropriate agencies (e.g., Corps of Engineers) in order to provide procedures and criteria to be used in identification of 100-year floodplains in the Resource Area.

9 With regard to road improvement, the document states "Upgrading and graveling of existing main artery roads would be instituted as soon as possible." Exactly what is meant by "upgrading"? Who will be responsible for doing these upgrades? If there are multiple users, how will the cost of the upgrades be shared? The implementation of such a plan needs to be clarified.

10 It is also stated that "Dumping of produced water on roads would not be allowed unless TDS is less than 400 mg/l..." This standard is excessively low considering the drinking water standard is 500 mg/l.

11 Another concern is that this document requires lining of reserve and disposal pits in soils with a permeability of greater than 0.06 inches per hour. How is this permeability to be determined? If it is a subjective test it should be so stated in the document. Or if it is a lab test, that should be so stated. Further, Amoco does not believe that it is necessary to line all reserve pits in soils of this permeability, and we recommend that each pit location be evaluated on a case-by-case basis.

12 In the Wildlife section of the draft document it is stated that "Habitat improvement plans would be developed for highly developed areas to mitigate wildlife habitat losses. Plans

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could include habitat expansion efforts, T&E species reintroduction, and population goals and objectives." It is not stated who would be responsible for doing these plans. It is also not stated whether population goals and objectives have been determined to be reasonable and appropriate or whether this would be a part of "the plan". Is the goal purely habitat replacement or is a specific population the goal? What is the BLM doing now to improve habitat and has the success of these efforts been analyzed? This is a potentially very costly activity, and we recommend elimination of language which could result in misinterpretation of what is required of whom.

In conclusion, Amoco believes these concerns can be addressed in the Final Environmental Impact Statement. By doing so the document will reflect an accurate and equitable treatment for oil and gas operations in the Green River Resource Area.

Thank you for considering our comments.

Jan Roberts

Jan Roberts
Sr. Environmental Specialist

cc: G.L. Austin - AB 1644
C.P. Larson - Wamsutter
G.E. Sundberg - Wamsutter
K.J. Overcash - AB 1990
K.S. Dawson - AB 1960
R.D. Howard - AB 2260

Comment Responses

35-7 We agree. The text has been changed to the recommended wording.

35-8 The 100-year floodplain can be estimated on a site specific basis using gauging stations and existing land forms.

35-9 Normally the applicant pays for the upgrade and the cost of the upgrade is shared among the producers. This is done on a case-by-case basis. See response to comment 27-24.

35-10 State of Wyoming DEQ regulations provide a basis for the 400 mg/l TDS limit for road application of produced water within the Green River Resource Area.

State Regulation: "In general the policy shall be no discharge of salt except where it is not economically or technologically practicable to prevent the discharge" [Chap VI, Sec 4, WY State DEQ Regulations]

Current Conditions: The TDS in the Green River as it exits the state naturally runs around 400 mg/l. Therefore, water that has a TDS of 400 mg/l or less will not violate the salinity standards. This condition is applied to produced waters and not surface waters based on the assumption that, excluding human actions, the salts in produced waters would be retained within the aquifers.

The 1990 Review of the "Water Quality Standards for Salinity [of the] Colorado River System," prepared by the Colorado River Basin Salinity Control Forum, states that studies done between 1941 and 1988 show an average TDS of 298 mg/l near Green River, Wyoming and 425 near Greendale, Utah.

35-11 See response to comment 27-26.

35-12 The BLM is responsible for the development of habitat management plans for implementation on public lands. Two recent plans that have been implemented in the GRRRA are the Currant Creek/Little Mountain HMP and the Jack Morrow Hills HMP. Population goals and objectives came from the Wyoming Game and Fish Department, the agency responsible for big game animal populations. Funding sources vary in implementing these habitat management plans. To date, funding has come from conservation organizations such as Rocky Mountain Elk Foundation, and Trout Unlimited. Also, Wyoming Game and Fish Department and BLM have provided funding for habitat improvement. Future funding could come from the oil and gas industry if project work was identified as mitigation for habitat loss through the environmental document.

36



L.M. (Mike) Mueller
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Telephone 307/587-4961

April 16, 1993

Bureau of Land Management
Attn: Rene Dana
Green River Resource Area DEIS
Rock Springs District Office
P.O. Box 1869
Rock Springs, WY 82902

Dear Mrs. Dana:

- 1 Marathon appreciates this opportunity to comment on the Green River Resource Area DEIS. We recognize the need to address numerous issues, however we question the approach the DEIS takes for oil and gas operations. The DEIS appears to use the premise that oil and gas activities are not an important part of the multi purpose use concept when compared to other public land uses. The DEIS should view oil and gas activities as a resource that provides the revenues and tax base for the majority of the State of Wyoming. Presently, the oil industry provides over 70% of the tax revenue for the State of Wyoming.

The DEIS fails to incorporate the historical and financial significance of the oil industry. The first oil and gas well was drilled in 1884, southeast of present day Lander, making the oil industry as much a part of the heritage of the State of Wyoming as the tourist industry or livestock industry. The oil fields' historical and financial impacts equal other monuments to our pioneers, such as their buildings and trails. This DEIS implies that surface disturbing oil and gas activities are unacceptable, then talks about protecting historical trails that show the ruts and erosion as something sacred.

- 2 The oil and gas industry in this DEIS is erroneously depicted as that which constitutes only negative impact. For example, page 513 indicates a program to improve the visual quality of existing oil fields to benefit visual and other resources such as soils, watershed and vegetation. The DEIS omits the plan of action and the cost to benefit ratio of expenditures being required of only the oil and gas industry. The DEIS fails to address the oil and gas areas being restored and reseeded after a surface disturbance. This DEIS must be rewritten to demonstrate how the existing Onshore Oil and Gas Operating Orders, which regulate oil and gas activities on Federal lands, are already being used to address surface activities.

- 3 This document needs to be rewritten with an objective approach to oil and gas, instead of placing the industry in a position of only negative impact as is shown in paragraph 2 under Visual Resources. There it is implied that the initiation of a program to improve the visual quality of the oil fields would benefit the visual resources in those areas and, in many cases, would benefit other resources such as soil, watershed, and vegetation. The DEIS must incorporate the current

A subsidiary of USX Corporation

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Green River Resource Area
Draft EIS
Page 2

Onshore Orders and show their all-encompassing regulatory impact on the oil industry. By not addressing the current regulations, is to imply the oil industry operates without regard to the environment.

- 4 It appears the DEIS promotes a double standard when it comes to resource development. First the oil and gas industry's surface activity is shown to be a negative impact, then the BLM states that roads will have to be upgraded and graveled with a base that does not already contain sufficient aggregate. On page 178 it states that upgrading and graveled of existing artery roads would be instituted as soon as possible. This open-ended statement allows the BLM to impose standards that could put an operator out of business or cause the premature plugging and abandonment of a field. The statement can also be used to have the oil and gas industry pay for upgrading roads that are not used solely for oil and gas exploration or production.

- 5 Chapter 4 of this DEIS states that well access roads are to be upgraded and graveled, even though they are normally less than one mile in length. Unless the actual surface conditions for each site are reviewed, this is a cost that may not provide any benefit at all. Many oil and gas roads in the State of Wyoming are not paved or graveled.

Reclamation of a site is made more expensive with the requirement of hauling in gravel. This DEIS is stating the BLM wants only the best roads in an area but will not pay for the road construction, so the oil and gas industry will foot the bill. Then this DEIS states the oil and gas industry is the cause of poor visual quality and the reason so many acres of disturbed ground exist. It does not make sense to condemn the oil industry for actions stipulated by the DEIS.

- 6 The DEIS fails to show the loss of tax revenue, jobs, and how a way of life will be negatively impacted if any of a number of concerns are given preference over oil and gas. The DEIS fails to note the estimated amount of money the industry will spend for archeological surveys and the number of sites that will be discovered and identified as significant or eligible for the National Register. The oil and gas industry has paid for a significant amount of cultural resource identification in the past.

- 7 This DEIS needs to be rewritten to evaluate the positive impacts of oil and gas exploration and production. The negative impacts on public lands and on the oil industry by additional restrictions and other users should be included.

Sincerely,

MARATHON OIL COMPANY

L. M. Mueller
L. M. Mueller
Production Manager
Rocky Mountain Region

Comment Responses

36-1 Your comment is correct. The history and financial significance of the oil industry in Wyoming is important. However, we feel that the history of oil and gas activity was adequately discussed in Chapter 3 - Affected Environment (realizing that this discussion is only a brief review). Likewise, the socioeconomic section of this chapter also provides a brief discussion of oil and gas outputs, its outlook, and assessed valuation. Also see response to comment 28-8.

36-2 See response to comment 27-21. Once management has selected an alternative, an implementation plan will be prepared. A cost to benefit ratio was not prepared. Many restrictions placed on oil and gas development and other surface disturbing activities, are based on benefits that are intangible (the benefits of a historic viewshed for example). We know of no method that would allow us to determine a meaningful expression of overall benefit. The Assumptions and Assessment Guidelines section of Chapter 4 - Environmental Consequences, determines how much surface disturbance will occur and how much will be immediately reclaimed. It also determines how much will be disturbed and reclaimed over the long term. In addition, Appendix 5-3 shows how revegetation and reclamation of disturbance will be planned.

The assumption and assessment guidelines section states that the BLM will comply with applicable laws, regulations, and policies. Compliance with Onshore Oil and Gas Operating Orders are also included. Discussion of the details of how these orders will be used is not appropriate to this plan. The intention of the plan is to analyze those effects that would result from management decisions. We assume these orders would already have been complied with and are assessing the additional impact that may occur.

36-3 Chapter 4 of this document is intended to present environmental consequences of the proposed management actions previously described in Chapter 2. Both beneficial and adverse effects of each action are described.

At the beginning of the planning process, mineral resource management was identified as an issue that required more information gathering and study. Mineral activity, including oil and gas activity, is widespread across the resource area and is responsible for both positive and negative impacts. It is only natural that information about this activity should be prominent in a planning document. We have not said that the oil industry operates without regard to the environment and do not feel they have been singled out as having only adverse impact in the resource area.

See response to comment 27-21 for information about visual resources.

Prior to the discussion of Environmental Consequences in Chapter 4, the BLM stated that it would comply with applicable laws, regulations, and policies in implementing a resource management plan. Impacts discussed in Chapter 4 are those that specialists working on this plan believe would occur due to recommended management decisions and not due to compliance with laws, regulations, and policies. In other words, the impacts identified are believed to be those that result even after application of laws, regulations, and policies.

36-4 See response to comment 27-24.

36-5 On short haul, temporary roads, it has been the policy of the BLM to encourage watering for dust suppression to reduce wind erosion and protect visibility. Graveling is seldom required in an effort to encourage reclamation when the rights-of-way are no longer to be used.

Comment Responses

- 36-6** Compliance with the NHPA is part of doing business on public land, and management and protection of cultural resources is an important part of multiple use management. Increases in tourism and recreation related to cultural resources, such as historic trails, should be in part weighed in relation to costs of energy development. It is difficult to predict the number of archaeological sites that are on BLM-administered lands in the resource area. Less than 10% of the area has been inventoried. The BLM is responsible for inventories of historic properties, pursuant to the NHPA.
- 36-7** In analyzing the environmental consequences portion of the RMP, we are to identify the beneficial and adverse impacts of any action. The RMP outlined various alternatives in the document, and the purpose was to outline what effects would occur as a result of stipulations.

37

ROBERT O. BYRON
ADM ASST
TO N.A. TRUE JR

March 2, 1993

DRAWER 2750
CASPER, WYOMING
82602

Ms. Renee Dana, EIS Team Leader
Bureau of Land Management
Rock Springs District
P. O. Box 1869
Rock Springs, WY 82902

Dear Ms. Dana:

Following are our comments on the Green River Resource Area Draft Environmental Impact Statement and Resource Management Plan.

1 You have not considered enough alternatives in your DEIS/RMP, and therefore it is deficient. You only analyzed a small number of alternatives in detail because you assumed a high level of restriction on oil and gas activities would be required. To have a balanced plan, you should analyze another alternative which assumes leasing for oil and gas on the Green River Resource Area outside of statutorily closed areas and with only the standard terms and conditions included on the federal lease form. By performing a study on the alternative in this manner, it would provide the public and the BLM with a specific basis for comparison of the BLM's management objectives by alternative, not only in terms of related environmental consequences but also in terms of BLM's authority to protect sensitive resource values without special stipulations and conditions.

2 You are inconsistent with your "no lease" figures associated with your Preferred Alternative--in Table 2-9, Chapter 2, you show that 331,020 acres will be unavailable for lease while on page 502 you show that 465,570 acres will not be leased under your Preferred Alternative.

3 You have dramatically increased the restrictions on oil and gas exploration and development activities, but you have not shown the need for these restrictions. As you know, it is BLM policy that you must show the need for constraints and restrictions in your planning documents. On the flip side of the coin, you must also show that less restrictive measures were considered but found lacking to protect the identified resources. Discussion of requirements of a resource to be safeguarded, along with a discussion of any perceived

- 37-1** We feel that we have analyzed a sufficient number of alternatives. See responses to comments 27-1, 27-8, 27-14, and 30-1.
- 37-2** Table 2-9 on page 147 of the RMP Draft EIS is the correct figure.
- 37-3** See response to comment 30-2. The MSA contains additional information on the review of mitigation measures.

37

Ms. Renee Dana, EIS Team Leader
March 2, 1993
Page 2.

conflicts between it and oil and gas activities, must be shown in your documents; and they are not present in these documents.

4 The Criteria for Granting Waivers, Exceptions and Modifications to restrictions on page 712 are much too general and must provide more specific information. In talking about Weather Severity Criteria, you should show how deep the snow must be, the thickness of the crusting, and how long it has to be in place to give a yes or no on WEM requests. Similar information should be provided for habitat condition and availability, site location, and timing criteria.

5 You have obviously ignored the permitting process with which geophysical operators must comply. The changes you have proposed in management are arbitrary and capricious and should be eliminated. The current management system is adequate protection of surface resources from geophysical activities.

6 You have proposed six new "Areas of Critical Environmental Concern (ACEC)":

South Pass Historic Landscape - 54,840 acres
- 38,260 acres closed to surface disturbing activities

Steamboat Mountain Area - 43,010 acres
- closed to leasing pending further analysis

Pine Spring Expansion - 5,200 acres (now 90 acres)
- closed to surface disturbing activities

Tri-State Monument - 131,780 acres
- Sage Creek - 52,670 acres, closed to surface disturbance
- Currant Creek - 23,740 acres, closed to surface disturbance
- Red Creek ACEC (existing) - 55,880 acres, avoidance area for ROW and closed to leasing on 50,120 acres

37

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Candidate Plant Species - 440 acres, known candidate plants
- as many as 31,340 acres of potential habitat could be added later.

A good number of these proposed ACECs have significant potential for oil and gas exploration and development. You have also failed to document in the DEIS that the proposed ACECs meet the designation criteria described in BLM Manual Section 1613. You have not documented their importance.

7 You have also prepared a "Reasonably Foreseeable Development Scenario (RFD)" which projects that there will be 1,258 well completions in the area. You also projected a maximum future number of well completions at 2,385 wells--however, this maximum projection of 2,385 wells is not expected to occur over the next twenty years, which is the life of your plan.

8 Your proposal for management of candidate plant species is too all encompassing and too restrictive. You have not evaluated all management options which might be used to insure the viability of the plants. In Chapter 4, under the Preferred Alternative, you propose not to allow leasing on 440 acres of known habitat while turning around and allowing leasing with No Surface Occupancy (NSO) on 2,670 acres. To have a balanced approach or rather an unbiased approach, you should evaluate any possible impacts to any of these plants which might result from using a controlled surface use stipulation instead of giving the area an NSO stipulation or withholding these areas from leasing.

9 One of the most ridiculous proposals you have listed is on page 513 where you propose to improve the visual quality of the existing oil fields to benefit visual and other resource values, such as soil, watershed and vegetation. Please remember that, for example, in the eastern portion of the Sand Dunes proposed ACEC there are already 18 producing wells in the area and they are operating under leases which had been in effect for quite sometime. Less we forget, "a contract is still a contract."

Comment Responses

37-4 See response to comment 30-7.

37-5 See response to comment 27-9.

37-6 See response to comment 28-24.

37-7 As discussed in Chapter 4, past drilling data were used to project a most probable and maximum future projection of drilling activity. Actual activity is expected to fall somewhere in this range (activity levels will remain about the same or increase). Additional restrictions will have some effect on the number of wells drilled but, economics, technology advances, and capacity of the gas transportation network will have a greater effect on the number of wells drilled.

37-8 See response to comment 27-15. The text has been revised to provide for enhanced management of candidate plants. BLM policy directs that we manage these plants for their enhancement, to prevent further loss, and perhaps to prevent their listing as an endangered species. Currently, there is no effective mitigation or recovery for losses of these plants. For this reason, no disturbance is allowed on the actual plant sites. Searches would be conducted in potential areas to ensure activities would not directly affect these species.

37-9 See responses to comments 27-21 and 27-22. These proposals are not intended to supersede the contents of the lease for oil and gas. Our intent is only to improve surface conditions in fields where we believe improvement is appropriate.

37

Ms. Renee Dana, EIS Team Leader
March 2, 1993
Page 4.

10 It is ludicrous to propose a 1/2 mile buffer zone around the five known rock art sites which cover a total of 100 acres, and you are proposing to restrict surface occupancy on 2,400 acres surrounding these sites in order to preserve their "visual integrity." You have shown no documentation on how the visual integrity would be reduced in these areas if oil and gas activities were allowed. This proposal should be dropped because buffer zones are merely a way to expand wilderness areas or de facto wilderness areas.

11 You are also proposing on page 178 to require all oil and gas access roads to be paved or upgraded. This is just another way to add additional costs to operations of oil and gas fields so that they will become uneconomical and have to be plugged and abandoned. The ordinary lease road in an oil or gas field is generally gravel, and they are never paved or upgraded from a gravel road unless they are what we call "elephant or world class" fields. These roads are also generally not long in length, and unless there is a very unstable area, the paving or upgrading proposal is out of the question.

Sincerely,


Robert O. Byron

ROB/atk

38



DRAWER 2360
CASPER, WYOMING
82602

April 14, 1993

Ms. Renee Dana, EIS Team Leader
Bureau of Land Management
Rock Springs District
P. O. Box 1869
Rock Springs, WY 82902

Dear Ms. Dana:

Following are our comments on the Green River Resource Area Draft Environmental Impact Statement and Resource Management Plan.

1 You have not considered enough alternatives in your DEIS/RMP, and therefore it is deficient. You only analyzed a small number of alternatives in detail because you assumed a high level of restriction on oil and gas activities would be required. To have a balanced plan, you should analyze another alternative which assumes leasing for oil and gas on the Green River Resource Area outside of statutorily closed areas and with only the standard terms and conditions included on the federal lease form. By performing a study on the alternative in this manner, it would provide the public and the BLM with a specific basis for comparison of the BLM's management objectives by alternative, not only in terms of related environmental consequences but also in terms of BLM's authority to protect sensitive resource values without special stipulations and conditions.

2 You are inconsistent with your "no lease" figures associated with your Preferred Alternative--in Table 2-9, Chapter 2, you show that 331,020 acres will be unavailable for lease while on page 502 you show that 465,570 acres will not be leased under your Preferred Alternative.

3 You have dramatically increased the restrictions on oil and gas exploration and development activities, but you have not shown the need for these restrictions. As you know, it is BLM policy that you must show the need for constraints and restrictions in your planning documents. At the same time, you must also show that less restrictive measures were

Comment Responses

37-10 See response to comment 27-23.

37-11 See response to comment 27-24.

38-1 See responses to comments 27-1 and 27-8. An additional alternative will not be considered. Several other alternatives were considered, but not presented in detail. See Chapter 2 of the Draft EIS. Alternative B was analyzed by removing restrictions not required by law or policy. We feel that we have provided a reasonable range of alternatives under the laws and policy guidance currently in effect.

38-2 See response to comment 37-2.

38-3 See response to comment 35-1. We have not increased restrictions dramatically. The prescriptions in the preferred alternative were derived from several factors. First, the management prescriptions for two resource areas were consolidated into one when the Big Sandy and Salt Wells Resource Areas became the Green River Resource Area. Secondly, the impact analysis of the No Action and other alternatives indicated some unacceptable levels of impacts that led to further management prescriptions. Third, public input through scoping and other project information provided public concerns with management of sensitive areas; and fourth, the compilation of new policies and laws led to clarifications of prescriptions as well as some new ones. Additional information is on file in the MSA in the Green River Resource Area office.

Ms. Renee Dana, EIS Team Leader
April 14, 1993
Page 2.

considered but found lacking to protect the identified resources. Discussion of requirements of a resource to be safeguarded, along with a discussion of any perceived conflicts between it and oil and gas activities, must be shown in your documents; and they are not present in these documents.

- 4 The Criteria for Granting Waivers, Exceptions and Modifications to restrictions on page 712 are much too general and must provide more specific information. In talking about Weather Severity Criteria, you should show how deep the snow must be, the thickness of the crusting, and how long it has to be in place to give a yes or no on WEM requests. Similar information should be provided for habitat condition and availability, site location, and timing criteria.

- 5 You have obviously ignored the permitting process with which geophysical operators must comply. The changes you have proposed in management are arbitrary and capricious and should be eliminated. The current management system is adequate protection of surface resources from geophysical activities.

You have proposed five new "Areas of Critical Environmental Concern (ACEC)":

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- closed to leasing pending further analysis

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- closed to surface disturbing activities

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Ms. Renee Dana, EIS Team Leader
April 14, 1993
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- Currant Creek - 23,740 acres, closed to surface disturbance
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- Candidate Plant Species - 440 acres, known candidate plants
- as many as 31,340 acres of potential habitat could be added later.

- 6 Many of these proposed ACECs have significant potential for oil and gas exploration and development. You have also failed to document in the DEIS that the proposed ACECs meet the designation criteria described in BLM Manual Section 1613. You have not documented their importance.

- 7 You have also prepared a "Reasonably Foreseeable Development Scenario (RFD)" which projects that there will be 1,258 well completions in the area. You also projected a maximum future number of well completions at 2,385 wells-- however, this maximum projection of 2,385 wells is not expected to occur over the next twenty years, which is the life of your plan.

- 8 Your proposal for management of candidate plant species is too all encompassing and too restrictive. You have not evaluated all management options which might be used to insure the viability of the plants. In Chapter 4, under the Preferred Alternative, you propose not to allow leasing on 440 acres of known habitat while turning around and allowing leasing with No Surface Occupancy (NSO) on 2,670 acres. To have a balanced approach and an unbiased approach, you should evaluate any possible impacts to any of these plants which might result from using a controlled surface use stipulation instead of giving the area an NSO stipulation or withholding these areas from leasing.

- 9 One of the most ludicrous proposals you have listed is on page 513 where you propose to improve the visual quality of the existing oil fields to benefit visual and other resource values, such as soil, watershed and vegetation. Please remember that, for example, in the eastern portion of

Comment Responses

38-4 Thank you for your comment. See response to comment 30-7.

38-5 The Geophysical section has admittedly been confusing to a great number of individuals. Consequently, this section is being rewritten to provide a more understandable policy. See response to comment 27-9.

38-6 See response to comment 28-24.

38-7 See response to comment 37-7.

38-8 See response to comment 30-16.

38-9 See responses to comments 27-21 and 27-22.

38

Ms. Renee Dana, EIS Team Leader
April 14, 1993
Page 4.

the Sand Dunes proposed ACEC there are already 18 producing wells and they are operating under leases which had been in effect for quite sometime.

10 It is absurd to propose a 1/2 mile buffer zone around the five known rock art sites which cover a total of 100 acres, and you are proposing to restrict surface occupancy on 2,400 acres surrounding these sites in order to preserve their "visual integrity." You have shown no documentation on how the visual integrity would be reduced in these areas if oil and gas activities were allowed. This proposal should be dropped because buffer zones are merely a way to expand wilderness areas or de facto wilderness areas.

11 You are also proposing on page 178 to require all oil and gas access roads to be paved or upgraded. This is just another way to add additional costs to operations of oil and gas fields so that they will become uneconomical and have to be plugged and abandoned. The ordinary lease road in an oil or gas field is generally gravel and is never paved or upgraded from a gravel road unless they are what we call "elephant or world class" fields.

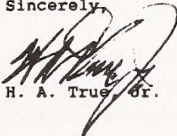
12 Wyoming is committed to developing, producing and marketing its natural gas resources. We have over 150 years of natural gas reserves when produced at present production rates. Natural gas demand will continue to grow because it is an environmentally desirable fuel. Wyoming was 100% in support of the original Kern River pipeline and is 100% in support of approval for the applications before FERC to expand throughput from 700 MMCF per day to 1.15 BCF per day. The reserves are there as testified to by National Petroleum Council, U. S. Geological Society, Dept. of Energy, Energy Information Administration, California Energy Commission, Potential Gas Committee and the Gas Research Institute-- "reserves and resources in the Rocky Mountain Region (and Wyoming) are present to support a production increase of 250% over current levels over the next 20 years."

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Ms. Renee Dana, EIS Team Leader
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Page 5.

13 We strongly urge you to reconsider your "proposed alternative" and recommend the Green River Resource Area be opened up for exploration, development and production of the tremendous natural gas reserves to aid in helping Wyoming resolve its economic problems and at the same time provide millions of dollars in royalties to the U. S. government and help reduce the federal trade deficit.

Sincerely,


H. A. True, Jr.

HAT/atk



Comment Responses

38-10 See response to comment 27-23.

38-11 See response to comment 27-24.

38-12 See response to comment 63-1.

38-13 The BLM appreciates your comments. The Preferred Alternative was developed in accordance with the principles of multiple use. It should be noted that approximately 90% of the resource area is open for oil and gas leasing. This plan provides for the orderly development of oil and gas resources and protects various resources for future generations.

39



Subsidiaries:
Washington Energy Exploration, Inc.
Washington Energy Oil, Inc.

Yusef J. Grant, P.E.
Assistant Vice President and
General Manager
Rocky Mountain Division

March 4, 1993

Mr. Bill LeBarron
Bureau of Land Management
Green River Resource Area
1993 Dewar Drive
Rock Springs, WY 82901

RE: Green River Resource Area
Resource Management Plan
Draft Environmental Impact Statement

Dear Mr. LeBarron

Washington Energy Exploration, Inc. appreciates the opportunity to provide input for the above captioned document. We are pleased to learn that the comment period deadline originally planned for March 4, 1993 has been extended for 45 days to April 19, 1993 since we have only had the three volume document in hand for review since February 23, 1993. Our comments here will be brief and broad, and we plan to follow up with more detailed comments.

As a significant oil and gas leaseholder and operator within the Green River Resource Area, we are very concerned about the multiple use land planning and its effect on our company's future activities. Fair and equitable use of Bureau of Land Management lands is an extremely important national goal and hopefully will incorporate the Clinton Administration's stated policy of increased use of natural gas as a primary fuel source. In order to insure a cost effective gas supply to the public, it is important that all viable sources are made available. Multiple use land planning incorporates the national need for a sustained and predictable supply as well as the local need for a stable community population which can depend on year-round employment.

7400 East Orchard Road, #360, Englewood, CO 80111, (303) 694-0650 Fax: (303) 694-0866

39

Mr. Bill LeBarron
March 4, 1993
page 2

OIL AND GAS LEASING

- 1 We believe that most federal mineral acreage should be made available for leasing, rather than having blanket exclusions over significant portions of land. Exclusions often have merit, but conflicting concerns can be incorporated into mitigation measures. Leases can be issued with requirements to recognize and mitigate the issues involved in specific areas. Each potential bidder for oil and gas leases could make their own assessment of the value and risk of each lease and choose whether to bid on a lease and at what value.

NO SURFACE OCCUPANCY

- 2 Surface occupancy restrictions greatly devalue oil and gas leases and in many cases eliminate value. As above, an alternative is to issue the lease with qualifications. Since it is generally known that No Surface Occupancy restrictions are based on specific concerns, the B.L.M. could provide specific reference to the conflicting values and allow for mitigation if it is feasible. Rather than depending on the personality and view point of a specific B.L.M. Authorized Officer to rule on an exception to No Surface Occupancy, the B.L.M. would be required to demonstrate the value of the conflicting resource(s).

SEASONAL RESTRICTIONS

- 3 The primary demand for natural gas is during the peak heating season, November through March, depending on the weather. Across the board seasonal restrictions have both a national cost of a gas component and a local socio-economic component. Natural gas has an extremely inelastic supply-demand relationship i.e. a small supply disruption can cause a significant upward price change. It is important to fully operate natural gas wells in the winter to maximize benefit to the American consumer. Seasonal restrictions of a significant magnitude can reduce the need for oil and gas contractors and supplies on a year-round basis, necessitating the larger use of seasonal workers. This will de-stabilize the local population base and create an annual "boom-bust" situation.

39-1 There are not "blanket exclusions over a significant portion(s)" when you consider that about 90% of the resource area is open for oil and gas leasing. The last two sentences of your comment are standard operating procedure.

39-2 This is standard operating procedure.

39-3 It is true that across-the-board seasonal restrictions can have an impact on company, employee, and consumer economics and can disrupt supplies. Our seasonal restrictions may limit access for routine operation of oil or natural gas wells and could cause some direct impact to production activities. Additional site-specific environmental analysis at the operation stage would determine any needed restrictions or mitigation.

In those areas that we have proposed seasonal restrictions, our intention is to restrict surface disturbance types of activity that may cause impacts to other resource values (i.e., certain crucial winter ranges). If conditions do not warrant an exception to any seasonal restriction, then an impact would occur. These restrictions would cause some short-term impact, if not planned for. We feel these restrictions are necessary to protect certain identified resources and still allow opportunities for mineral exploration and development.

39

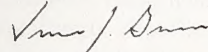
Mr. Bill LeBarron
March 4, 1993
page 3

CULTURAL RESOURCES

While it is imperative that significant and unique cultural resources be properly protected, the current process of data collection and review has become an excessive road block to surface activity of any type. The review process mentioned in the RMP does not differentiate between the Petroglyphs and a small lithic scatter. The tremendous volumes of data now on file have been almost exclusively provided by companies and individuals involved in surface disturbing activities i.e. oil and gas exploration, pipelines, mines, roads. Most of this data would not otherwise be available to the cultural resource special interests and the general public.

We appreciate the complexity of preparing a planning effort of this magnitude, and of the time required to complete this draft document. Since its inception in 1989, there have been significant changes in the public perception of the nation's economy as well as significant changes in demand for natural gas and gas price at the wellhead. We think the data contained in the final document should be the most current available. We also think comments from all sources should be made available for review before implementation of the final document.

Sincerely



Vince Grass
Vice President & General Manager
Rocky Mountain Region

DFB/WS/GR/vh

Comment Responses

39-4 You are correct, a large amount of cultural data has resulted from studies funded by companies and individuals. However, the varying significance of historic properties is explicitly treated in Section 106 of the NHPA which requires the BLM and SHPO to consult concerning NRHP eligibility of historic properties, and NRHP eligibility is based directly on significance. In some cases, eligibility determinations are elevated to the Keeper of the NRHP. However, to avoid delays for developers, BLM and SHPO endeavor to reach a consensus determination and avoid a lengthy Keeper's determination whenever possible. Also see response to comment 28-28.

40

Washington Energy Resources
A Washington Energy Company

April 16, 1993

Mr. Bill LeBarron
Bureau of Land Management
Green River Resource Area
1993 Dewar Drive
Rock Springs, Wyoming 82901

RE: Green River Resource Area (GRRA)
Resource Management Plan (RMP)
Draft Environmental Impact Statement (EIS)

Dear Mr. LeBarron:

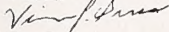
Washington Energy Exploration, Inc. appreciates the opportunity to provide input for the above captioned document, and also appreciates the extended comment period from March 4, 1993 to April 19, 1993. After further review of the RMP/EIS, we wish to re-affirm our comments contained in our letter dated March 4, 1993 and hope that you will consider them seriously.

Consideration was given to providing written comments on all our points of concern in the document. However, rather than send a point by point response which would be quite lengthy, we herewith offer to provide direct input into writing the Final RMP/EIS. We believe that our professional staff and consultants can provide a broad range of oil and gas industry decision-making criteria from inception of an exploratory program through development and transporting to the American consumer. Our view-point would include up to date data on oil and gas pricing which could be incorporated into the current and projected effects on revenue streams to federal, state and local governments as well as economic effects on the area population and work force. This information could be incorporated with your information on GRRA resources as your comprehensive plan is developed.

Washington Energy understands that one of the main purposes for writing this RMP/EIS was to reconsider and update oil and gas exploration and production impacts on the Green River Resource Area. We strongly believe that current and complete information should be utilized, as one of the Clinton Administration's energy and environmental goals is to increase use of natural gas nationwide. To insure a cost effective and continuous energy supply to the American public, every effort should be made to implement land use planning that will provide for practical, timely review and decision making for all aspects of land use that affect oil and gas exploration and development. Energy is more than a commodity, it is a strategic resource and should be considered accordingly.

Please let me know how we can provide our assistance in this comprehensive planning effort.

Sincerely,



Vince Grass
Vice President & General Manager
Rocky Mountain Division

40-1 The GRRA appreciates your offer in helping to write the RMP Final EIS; however, we cannot accept your offer. The BLM has been given the authority for management of public lands and for the writing of these public documents. The RMP EIS process provides for public input into these documents and comments received are review and analyzed to determine the validity for inclusion in the final.

March 4, 1993

Bureau of Land Management
ATTN: Rennee' Dana, Team Leader
Rock Springs District
P. O. Box 1869
Rock Springs, WY 82902

RE: Green River Resource Area
Resource Management Plan (RMP) and
Draft Environmental Impact Statement (EIS)

Ms. Dana:

ARCO Oil and Gas Company appreciates the opportunity to comment on the proposed Green River Resource Area "Resource Management Plan and Draft Environmental Impact Statement". At this time we can not endorse any of the alternatives as written. ARCO has worked with RMOGA/PAW on the review and we support their comments and observations. On the basis of our own preliminary review we submit the comments below for your additional consideration.

GENERAL REMARKS:

- 1 All lands should be considered for shared use by as many users as possible, consistent with the concept of multiple use. We recognize that some lands are withdrawn for special purposes. All withdrawals should be specific and justified before being set aside. There appears to be an increasing amount of lands with special stipulations attached without adequate justification, particularly "no surface occupancy" and lands that might be considered critical habitat in the future.
- 2 ARCO objects to the use of the term "irreversible irretrievable loss" of mineral resources when referring to the production of oil and gas. These words deliberately put the petroleum industry in an unfavorable position. Also, the extraction of any mineral in any quantity is non-renewable. Mineral development and use are essential to the nations' economy and the manufacture of the goods used in every day life by every citizen. We urge you to change the language.
- 3 Excessive protection of candidate plant species, as if they were listed as endangered, appears to be provided for. We suggest a more reasonable approach to candidate plant species.
- 4 The plan mentions that the discovery of fossils will require an inventory. Who is to be held accountable for the inventory and the cost? We believe that the agencies should be specifically mentioned in the plan as responsible for these studies. Time limits should also be incorporated so that projects will not be unduly suspended.

ARCO is a subsidiary of ARCO Chemical Company.

Green River Resource Area
Page 2

- 5 The plan should allow the operator to first test for hazardous wastes using a less costly test than TCLP. A screen would indicate the need for additional testing.
- 6 We support revocation of the oil shale withdrawal.
- 7 Volume 1, Page 151 & 152, and Table 2-10, Context regarding seasonal restriction for all surface disturbance activities contradicts protection requirements. One part of the context states "protect all", where other context states "protect major". We feel that "protect all" is too restrictive and unreasonable.
- 8 Volume 1, Page 368, "Federal" is misspelled in the first sentence "F-deral".
- 9 Volume 2, Page 459, Who is to be held responsible to pay for data collection and recovery.
- 10 In light of more restrictive regulations and fewer dollars available for oil and gas exploration and development, we believe that one can project a lower number of future wells. Likewise a less optimistic outlook may be warranted with respect to future (exponential) revenue. While historical data (back to the 1950's) is important, we feel that more recent drilling activity, regulation impact, economics and the general state of the industry in the past 10 years should be weighted more heavily in making projections. Also, we suggest you consider reduced drilling projections in estimating future revenue dollars to the government. This may be reflected in less spent for leases as well as reduced royalty income.
- 11 The real and realistic projected impacts to wildlife need to be considered. The presence of oil and gas activity have actually been shown to be compatible with wildlife in many cases. Wildlife mitigation measures have often enhanced the habitat. The oil and gas industry presence should not be consistently shown to be unfavorable.
- 12 Recreation is compatible with oil and gas operations.
- 13 In our preliminary review we did not locate any section that addresses exploration and development of competing minerals. This is potentially a significant issue between oil and gas, trona and coals. We believe it should be included in the plan discussion.

If you have any questions concerning our comments, please contact me at 915/688-5570 or Elizabeth A. Casbeer at 915/688-5370.

Yours very truly,

Elizabeth S. Bush
Elizabeth S. Bush
Regulatory & Compliance Coordinator

EAC/ESB

cc: PAW
R/C Files

Comment Responses

- 41-1 The document was prepared under the principles of multiple use. The RMP document itself provides the background and justification for leasing and for special stipulations that may be required for the BLM to meet its multiple use mandate.
- 41-2 The team has chosen to discuss irreversible and irretrievable commitments of resources, if they may occur, for each resource type. This is a common approach for these documents and these terms will be maintained. We agree that mineral development and use is essential to our economy; we will change our discussion of mineral impacts to greater emphasize the positive economic benefits of mineral production.
- 41-3 Our intent of the management presented in the RMP is to avoid the possibility of these plants being designated as Threatened or Endangered by providing the best possible protection for Candidate species now.
- 41-4 The BLM is mandated to manage and protect scientifically significant resources, and the Green River Resource Area is located in an area that has scientifically significant fossils. When we have good reason to believe that a given land-disturbing activity would destroy or affect significant fossils, we may not approve the action until the conflict has been resolved. The Wyoming BLM has only one person on staff who is qualified to perform paleontological inventories and monitoring work. A paleontological survey will be expedited if the company contracts with a professional paleontologist to perform the required work.
- 41-5 The TCLP can be modified to test for a narrow spectrum of constituents. The intent of testing reserve or production pits is to allow BLM to gain additional information on overall operations in the oil and gas field and provide proper protection of the environment.
- 41-6 Thank you for your recommendation for management of the oil shale withdrawal. This advice was considered along with all other public input provided on this proposal.
- 41-7 It should read "all."
- 41-8 Thank you for your comment. The text has been corrected.
- 41-9 The BLM has no plans to initiate data recovery or collection within the GRRA. The RMP discusses data recovery in the context of expediting BLM compliance with the NHPA to expedite development of minerals. As that paragraph states, the BLM **preferred** management practice is to **avoid** adversely affecting historic properties. In cases where a developer's proposal cannot be carried out without adversely affecting historic properties, the BLM expects the beneficiary of that development to fund data recovery.
- 41-10 We are hesitant to reduce our projections of drilling activity. We have updated and modified this information and still project activity to fall between our maximum and most probable future projections. In addition, much information has been submitted during the comment period projecting increases in drilling that exceed our projections. No others have projected a decrease in activity.
- 41-11 We agree with this statement. Wildlife can habituate to oil and gas if there is enough remaining habitat and limited human disturbance.

Comment Responses

41-12 Thank you for your comment.

41-13 See response to comment 31-8. There are potential conflicts with oil and gas development that may cause health and safety problems. Currently, policy for management of these two resources in the Known Sodium Leasing Area is being reviewed, and a decision will be made outside the scope of this plan. The minerals management part of this document has been revised to provide direction to support health and safety concerns.



79 SOUTH STATE STREET • P. O. BOX 11070 • SALT LAKE CITY, UTAH 84147 • PHONE (801) 530-2600

April 16, 1993

Renee Dana
EIS Team Leader
Bureau of Land Management
Rock Springs District
P.O. Box 1869
Rock Springs, WY 82902

Dear Ms. Dana:

Re: *Draft Environmental Impact Statement
Green River Resource Area*

Wexpro Company is an exploration and production company which is headquartered in Salt Lake City and operates in the Rocky Mountain Region with significant operations in the State of Wyoming. Wexpro submits the following comments to the Draft Environmental Impact Statement (DEIS) for the Green River Resource Area (GRRRA).

1 Wexpro believes that an additional alternative was overlooked by the BLM, viz., an alternative which permits oil and gas leasing on the GRRRA, outside statutorily closed areas, with only the standard terms and conditions included on the federal lease form. This alternative would provide needed comparison between the presently proposed alternatives.

2 BLM presented insufficient data to justify increasing restrictions on oil and gas exploration and development activities. The BLM planning documents did not set forth clear justification for such restrictions. The criteria for granting Waivers, Exceptions and Modifications to restrictions appear to be too general. For example, weather severity criteria should describe how deep snow must be, how thick the crusting must be, and how long it has been in place in order to influence a decision to allow or deny such a Waiver, Exception or Modification.

3 The Preferred Alternative is deficient in considering the current permitting process for geophysical operators. The current permitting process safeguards the environment and natural resources from undue degradation and should be followed by BLM unless there is documented justification for adding additional restrictions.

42-1 Alternative B addressed production by imposing only statutory and policy restrictions.

42-2 See responses to comments 27-8 and 30-7. This EIS is not intended to completely document all data compiled and analyzed. Much material, of necessity, must remain in Resource Area Description, Reasonable Foreseeable Development analysis, and Management Situation Analysis documents. We have used this documentation in preparing proposed restrictions to hydrocarbon exploration and development activities.

The criteria for granting waivers, exceptions, and modifications to restrictions are intended to show what information goes into making a decision. Professional judgement must play a key part in the Bureau's recommendation. An Administrative Determination will be made, or NEPA documentation will be prepared when considering a decision to grant a waiver, exception, or modification. Details of how the criteria are applied will be documented as part of each decision.

42-3 See response to comment 27-9.

42

Renee Dana

-2-

April 16, 1993

4 Wexpro also objects to the designation of Areas of Critical Environmental Concern (ACEC) without sufficient documentation meeting the criteria described in BLM Manual 613. These criteria require potential ACECs to have specific relevance and importance in order to qualify for a designation. Wexpro does not find that BLM has adequately illustrated the importance of these designations. In addition, BLM should document why oil and gas activities have been deemed incompatible with the uses set forth in the ACEC's. For example, it is unclear from the document, how the BLM can justify its classification of the eastern portion of the Sand Dunes ACEC as Visual Resource Management (VRM) Class 2, when the area already sustains producing wells. We are concerned that BLM has failed to acknowledge that valid, existing lease rights prevail over any changes in Visual Management.

5 Of particular importance, Wexpro objects to the imposition of the requirement to pave and/or upgrade oil and gas roads. Singling out the oil and gas industry to upgrade their roads seems discriminatory. All roads in the GRRRA should be evaluated to determine whether it is necessary. The upgrading should be limited to problem roads where there would be a tangible benefit. Oil and gas field transportation systems are not normally paved or graveled because to do would result in more disturbance than is warranted. Operators of marginal wells with long access roads would likely shut them in rather than upgrade the roads.

6 The BLM requirement to line pits with a permeability of greater than 0.06 inch per hour should specify how permeability will be determined. A reasonable degree of flexibility must be incorporated in this overall restrictive standard. Also, some drilling muds and fluids do not necessarily contain substances which would result in ground water contamination.

Thank you for this opportunity to comment on the Draft Environmental Impact Statement for the GRRRA.

Very truly yours,

Thomas C. Jepperson
Thomas C. Jepperson
Managing Attorney

pf

schmidt@rednet.net

Comment Responses

42-4 See response to comment 28-24.

Oil and gas activities are not incompatible with all ACECs or within an entire ACEC boundary. However, there are important resources such as petroglyphs, plant communities, or geologic features where any activity, not just oil and gas development, would adversely affect these values. The class II management prescription does not preclude activities; however, the extent, placement, and intensity of activities would be limited. Activities would be designed to blend and fit with the landscape, and not provide for landscape modification.

The Sand Dunes VRM classification of Class II was established in the Big Sandy Management Framework Plan (1982). We did not change this classification in this document. Even though there are 18 producing wells in the eastern portion of the Sand Dunes ACEC, the striking contrast of the dunes with the surrounding landscape warrants a VRM classification of Class II. Valid mineral rights will continue to be honored. Visual Resource Management (VRM) classifications are set up to protect scenic resources and inventory the scenic values of public lands.

42-5 See response to comment 27-24.

42-6 See response to comment 27-26.

43

Mobil Exploration & Producing U.S. Inc.

P.O. Box 370
Big Piney, Wyoming 83113

April 8, 1993

Area Manager
Green River Resource Area Office
Bureau of Land Management
1993 Dewar Drive
Rock Springs, Wyoming 82901

RE: Comments on Draft EIS and
Resource Management Plan for
the Green River Resource Area

Dear Mr. LeBarron:

On behalf of Mobil Exploration & Producing U.S. Inc. (MEPUS), I am pleased to offer the following comments on the draft Green River Resource Management Plan and the various alternatives analyzed therein:

PURPOSE AND NEED FOR THE RESOURCE MANAGEMENT PLAN

1 It is our belief that the Green River Resource Area Office (GRRRA) has failed to provide adequate and/or reasonable justification for the extensive analysis that has been undertaken in this DEIS. In this regard, we would presume that a change in current management practices within the GRRRA would only be warranted by:

- 1) a significant change in or deterioration of the physical environment of the GRRRA,
- 2) a significant increase in the demand for commodities produced from public domain lands in the GRRRA, or
- 3) a significant shift in current land management policy mandated by Congressional action,

which would necessitate the need for a revised RMP specifically designed to analyze these shifts and to prescribe management policies in keeping with the National Environmental Policy Act (NEPA). Considering that this document has failed to quantify any of the above occurrences, it is our opinion that said document has failed to demonstrate that current management practices are inadequate to protect and properly manage those natural resources within the GRRRA.

Consequently, the preparation of an extensive environmental analysis specifically designed to change current management practices within the GRRRA is not suitably justified.

RANGE OF ALTERNATIVES

2 The range of alternatives analyzed in the DEIS is extremely limited in scope - particularly considering the overall size of the GRRRA and the apparent complexity of the resource management issues therein. Moreover, the preferred alternative presented in the DEIS is much more restrictive on oil/gas exploration and development than those management practices currently in force.

43-1 The RMP was initiated for several reasons. Previous planning decisions were contained in several documents. Two resource areas were combined into one, and there were inconsistencies in planning decisions between the two MFPs. Allocations for oil and gas and other minerals were incomplete and the analysis for oil and gas did not meet the supplemental program guidance. Additionally, new information became available on several resources, which warranted a review of the information and existing decisions.

This document does take into account current laws and policies. It is also flexible, and new policies can be accommodated through maintenance action or amendment. The No Action Alternative does not freeze in time actions or activities, but looks at the implementation of policies and procedures as they would be required under the first planning tier.

43-2 See responses to letters 27, 30, and 38.

- 3 Although the DEIS indicates that the "The objective for management of the minerals program would be to maintain or enhance opportunities for mineral exploration and development", only one alternative provides for an increase in oil/gas exploration and development opportunities. In this regard, selection of the agency preferred alternative would actually **DECREASE** the opportunity for mineral exploration and development within the GRRA!

LACK OF OBJECTIVITY WITHIN THE DEIS DOCUMENT

The DEIS contains a number of statements concerning oil/gas exploration and development on our public lands which are clearly biased against such activities. Statements such as:

- 4
- 1) "The emphasis of the minerals program is the largest, most obvious impact to the water and soil resources..." (page 515), and
 - 2) "Soil contamination from drilling fluids and accompanying chemicals for production drilling continue to threaten area soils..." (page 515)

appear to be the personal opinion of the author(s). To our dismay, the DEIS abounds with statements such as those presented above - statements which have no basis in fact and which serve no useful purpose other than to prejudice the uninformed reader against continued oil/gas exploration and development of public domain lands within the GRRA. Consequently, these statements should be stricken from the final EIS document.

ADDITIONAL LAND WITHDRAWALS

- 5 As you know, one of the foremost problems facing oil/gas operators in these western United States is the continued and seemingly accelerated withdrawal of public lands from further oil/gas exploration. In this regard, the DEIS' preferred alternative (Table 2-9) proposes to withdraw approximately 637,250 acres from future consideration for oil/gas leasing, which represents approximately eighteen (18) percent of the total federal mineral estate within the GRRA. Of this total, approximately 336,710 acres are located within areas considered to have a "high potential" for commercial reserves of oil and/or gas, while an additional 66,240 acres are located within areas considered to have a "moderate potential" for hydrocarbon production. Although 238,960 of these acres currently enjoy statutory withdrawal from consideration as Wilderness Study Areas, the remaining 163,990 acres should not be arbitrarily withdrawn from consideration, particularly considering the fact that these lands exhibit a strong potential for production. Furthermore, application of the "No Lease" and/or "No Surface Occupancy" criteria to these lands precludes any future possibility of extracting the strategic reserves of oil and/or gas that may be located therein. Clearly, withdrawing 163,990 acres of high and moderate potential lands from any future oil/gas exploration activity is not in keeping with the stated objective for minerals management.

- 6 Rather than closing these lands to industry, I would recommend conditional leasing with provisions for occupancy based upon a site specific environmental analysis of each individual well location and the potential impacts resulting therefrom. This site specific level of analysis would allow exploration to proceed on a limited scale, and would encourage the continued development of advanced construction and/or reclamation techniques designed to mitigate impacts in these sensitive areas - as warranted by the terms and conditions of the lease agreement.

HAZARDOUS WASTES

- 7 In several instances, the DEIS mentions hazardous wastes in conjunction with oil/gas exploration and development activities. Please be reminded that on-lease oil/gas exploration wastes are specifically excluded under the *Resource Conservation and Recovery Act (RCRA)* and,

therefore, **ARE NOT** classified as "Hazardous". Consequently, those references to hazardous wastes contained in pages 129, 495, and 515 should be deleted accordingly.

SOCIOECONOMIC ANALYSIS

- 8 The DEIS fails to quantify the socioeconomic impacts(s) of withdrawing approximately 398,290 acres of mineral estate within the GRRA from future oil/gas exploration activity. This is a serious omission when one considers the potential revenues that could be generated from oil/gas production from these lands. Estimates of the state and federal revenues which could be generated from these withdrawn lands range as high as two hundred (200) million dollars. Likewise, additional drilling and production resulting from the selection of Alternative B would have "trickle-down" effect on the local economy by:

- 1) generating additional revenues for both county and local governments,
- 2) creating jobs for the local population, and
- 3) providing a boost to local businesses through the sales of goods and services to both commercial and non-commercial consumers.

A study conducted by Barlow and Haun (consulting geologists) in 1987 for the Wyoming Natural Gas Pipeline Authority indicates that the Green River Basin and Moxa Arch areas of the GRRA contain the most significant reserves of natural gas remaining in these United States. Furthermore, this study indicated that only seventeen (17) percent of these gas reserves have been produced to date, compared with from forty (40) to sixty (60) percent of the reserves in the other large geologic basins within this country. The geologic basins included within the GRRA, and surrounding areas, contain approximately 144.2 TRILLION cubic feet of gas, with production from these basins expected to continue for another 167 years! However, the DEIS only analyzes production through the year 2010. Obviously these gas reserves represent a significant portion of this nation's future natural gas supply. The DEIS should include analysis of the Barlow and Haun study.

Failure of the document to fully disclose the potential revenues which would be lost through withdrawal of these lands is a serious omission which jeopardizes the overall integrity of this analysis.

SUMMARY

- 9 In summary, this document analyzes only a limited range of alternatives, and appears to be generally prejudiced against oil and gas exploration and development within the GRRA. Moreover, the document's prejudice against future oil/gas exploration and development is in direct conflict with the stated goal for minerals management "...to maintain or enhance opportunities for exploration and development". The withdrawal of lands considered to have a high potential for oil/gas production is a specific case in point. Furthermore, the application of extensive restrictions on oil/gas exploration activities as recommended in your preferred alternative (i.e., surface disturbance restrictions on 1.4 million acres and seasonal restrictions on 1.7 million acres) DOES NOT appear to maintain or enhance exploration opportunities within the GRRA over the next twenty (20) years. In this same regard, the preferred alternative proposes to impose additional (and often substantial) financial burdens on a domestic oil and gas industry that is struggling for its very survival. The imposition of these additional and "after-the-fact" financial burdens is clearly not consistent with valid existing rights of existing oil/gas leases or with the policy statement concerning these rights and the precept of "due and necessary degradation" contained in Instruction Memorandums WO-92-87 or WY-92-113.

I refer specifically to requirements such as:

Comment Responses

- 43-3 As discussed in Chapter 4, past drilling data were used to project a most probable and maximum future projection of drilling activity. Actual activity is expected to fall somewhere in this range (activity levels will remain about the same or increase). Additional restrictions will have some effect on the number of wells drilled but, economics, technology advances, and capacity of the gas transportation network will have a greater effect on the number of wells drilled.

In order to assess positive and negative impacts due to activity, the most probable future projection was assumed for Alternative A and the maximum future projection was assumed for Alternative B. The most probable future projection was modified for the other two alternatives to give an idea of the relationships and impacts of adding restrictions. We assumed that Alternative C restrictions would cause some reduction in drilling activity. Since the Preferred has slightly fewer restrictions than Alternative C, we assumed some additional wells would be drilled but, there would still be fewer than projected for Alternative A.

- 43-4 See response to comment 28-37.

- 43-5 See response to comment 32-6. Actually, only 337,510 acres, or 9% of the BLM-administered federal land surface to be covered by the RMP Draft EIS are proposed as areas of no leasing. Additionally, a large portion of this acreage is closed by law or policy, and not by actions taken in this RMP. The other 299,740 acres may be leased but would contain a no surface occupancy restriction. Please see the Proposed Plan in this RMP Final EIS for updated figures. Most areas proposed for no surface occupancy are very small or their geometry is such that we expect that the subsurface hydrocarbon resource would be capable of being developed. In some of the proposed areas such as in Red Creek and the South Pass Historic Landscape, the large size of the protected area and limited distribution of available sites may preclude full development of any field that may be discovered. Our objective for mineral management must also be balanced with uses of other resources and their protection, as necessary.

- 43-6 Some modification of areas of no leasing and no surface occupancy has occurred to address specific comments. Most areas remain as no leasing and no surface occupancy. Your comment proposes provisions for leasing that are already required for any well drilled on Bureau-administered lands in the Resource Area. During the RMP EIS process, we have identified areas needing protection not afforded by your recommendation. No additional information has been supplied during the comment period that would lead us to believe that some other form of protection would be more appropriate.

- 43-7 See response to comment 28-35.

- 43-8 We have quantified the most important socioeconomic impacts of applying restrictions to oil and gas development and withdrawing certain areas from leasing. The economic benefits of selecting Alternative B have been discussed under Environmental Consequences. Some additional information has been changed due to valid comments and some has been updated.

Information supplied by Barlow and Haun will be included in this document and in supporting background documentation. Production is only analyzed through 2010 because that was determined to be the time span for this analysis.

- 43-9 Thank you for your comment. See responses to comments 27-1 and 38-13.

Comment Responses

April 9, 1993
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- 1) extensive road upgrading in existing fields at cost ranging from \$25,000 to \$50,000 per mile of road;
- 2) preparation and implementation of Habitat Management Plans in oil/gas fields which pre-date the RMP DEIS;
- 3) preparation of a "visual plan of operations" in existing Areas of Environmental Concern;
- 4) permeability testing requirements for all reserve pits;
- 5) TCLP testing requirements for reserve and production pits based solely upon an ambiguous and somewhat arbitrary "...indication of hazardous waste"; and
- 6) additional mitigation of pre-existing oil/gas facilities in the Sand Dunes ACEC.

11 As you know, the oil and gas industry is just one of many users of our public domain lands; unfortunately, the fact that oil/gas operations have a "high visibility" has resulted in this industry being singled-out and subsequently blamed for a multitude of problems within the GRRA, including perceived impacts upon both soil and water resources as stated on page 515. Oil/gas operations within the GRRA would disturb less than 0.5% of the total land surface managed by the BLM within the GRRA by the year 2010.

12 The DEIS contains no justification for the creation/expansion of those Areas of Critical Environmental Concern identified therein. Based upon the information presented in the DEIS, we do not believe that the BLM has adequately demonstrated that the areas in question exhibit more than local significance, which is the primary criteria to be utilized in the justification for creation/expansion of an ACEC.

13 Finally, the DEIS fails to provide a comprehensive socioeconomic analysis of the effects of withdrawing high and moderate potential lands from future oil/gas exploration and/or development or to adequately assess the positive socioeconomic impacts of Alternative B as compared to the other alternatives analyzed therein. This is a significant point that must be corrected in order for said document to fully disclose ALL impacts to the reader.

SELECTION OF AN ALTERNATIVE

14 Based upon the information presented in the DEIS, it is premature to endorse any particular alternative due to the lack of a reasonable range thereof. However, were we to endorse any alternative, it would be that alternative which maximized industry's opportunities to develop the hydrocarbon reserves known to exist within the GRRA.

CONCLUSION

On behalf of MEPUS, I thank you for the opportunity to comment on this DEIS and would urge you to consider these statements carefully in your final analysis.

Sincerely,


Lee L. Shafer
Production Foreman

LLS/dam

43-10 Habitat Management Plan preparation and implementation is a function of the BLM. We have no immediate plans to write new Habitat Management Plans in developed or developing gas fields. The cost for implementation of habitat improvements is shared by several agencies and organizations including industry, as appropriate.

See responses to comments 10-11, 25-1, 27-22, and 27-24.

43-11 Thank you for your comment.

43-12 See response to comment 30-17.

43-13 See responses to comments 32-9, 32-10, 32-11, and 32-12.

43-14 Thank you for your comments. BLM is a multiple use agency with a mandate to ensure that there is a balance in the use of resources and that one resource is not developed to the detriment of another resource. Also see response to comment 38-1.

44

TERRY W. DONZE

PETROLEUM EXPLORATION
3280 INGALLS STREET
WHEAT RIDGE, CO 80033
BUS (303) 239-9125
RES. (303) 239-9676

February 26, 1993

Bureau of Land Management
Rock Springs District
P. O. Box 1869
Rock Springs, Wyoming 82902

ATTN: Ms. Renee Dana

RE: Green River Resource Area
Resource Management Plan
and Draft Environmental
Impact Statement

Dear Ms. Dana:

Contrary to the prevalent theme in the referenced document, and to the dismay of many environmental extremists, geophysical exploration for oil, gas, and other minerals in the Green River Resource Area is not a recreational activity.

- 1 Because of this, the restrictions placed on the geophysical industry in the draft document, which coincide with recreational Off Road Vehicle restrictions, should be altered to allow geophysical activities to take place overland, as they are now conducted and have been in the past. Please document that geophysical activity is a "Necessary Task" under the 43 CFR regulations which will not restrict this activity to on-road use only.
- 2 Is geophysical activity considered surface disturbance? If so, areas designated with restrictions of 5 acre maximum surface disturbance under the "Necessary Task" exemptions of the above regulations could severely impact the use of recently developed geophysical technology. Compliance with that restriction would not be a problem given the two-dimensional seismic acquisition techniques used in the past. However, with the rapidly growing use of three-dimensional seismic acquisition, areas covering several square miles could be covered by one exploration program. With minimal impact on the surface, programs such as this should not be subject to these restrictions.
- 3 With regard to "Resource Damage", defined as leaving long term signs of vehicle use, please define "long term". I have shot seismic lines where, within a year, very little sign of use could be detected at all.

44-1 See response to comment 27-9.

44-2 See response to comment 27-9.

44-3 See responses to comments 27-9, 28-33, and 28-34.

44

- 4 Please also document the fact that geophysical activity is not considered surface occupancy relative to those areas designated "No Surface Occupancy" relative to any exploration facilities.
- 5 With regard to the South Pass Historic Landscape, since geophysical operations are generally not a continuous activity, they should not be subject to the 3 mile visibility restrictions proposed for facilities.
- 6 Areas presently proposed for "No Surface Occupancy" due to "Potential Candidate Plant Species" habitat should specify how long these areas are to remain closed. Almost any plant can be designated a "potential" candidate, effectively closing wholesale areas indefinitely. Since these plants are not designated "Endangered Species", areas in which they are located should not be closed to exploration operations indefinitely. I do not believe this to be the plan of the BLM and, as such, the document should be amended to reflect this.
- 7 In the Sand Dunes and Steamboat Mountain areas, where development drilling has been going on for some time, the document proposes limiting drilling to one well per section, even though drilling has historically been allowed at 3 wells per section. No analysis as to economic drainage spacing has been done to warrant this, nor has any analysis been done as to the amount of potential lost production under this proposal. This proposal is presently entirely arbitrary. Proper reservoir analysis is necessary before making this decision.
- 8 Nothing in the document refers to its potential impact on private lands adjacent to BLM lands covered by the document, as well as to lands with split estates, or lands covered by rights-of-way agreements. This needs to be addressed. Also missing from this document is a provision for any future energy emergencies our country may encounter, given the steep rise in oil imports over the last several years.
- 9 This document states that the preferred Management Objective with regard to geophysical operations is "To provide opportunity for exploration of mineral resources and geologic data, while protecting other resource values." The document has certainly met its aim of protecting other resource values but does not provide much in the way of opportunity for exploration. With all of the stipulations on wildlife and plant habitat, there is only a small window of opportunity of about 3 months for exploration work. Given the size, scope, and potential for exploration work in the area, this is much too short a time frame for industry to do its work. The industry cannot continue to employ people on a full-time basis when it can only work a quarter of the year. The document does not address the environmental impact on the people who will become unemployed because of it. As Alaska Governor Walter Hickel stated, "...the color of the environment is not just green. It is real. A person who is cold, hungry, or unemployed is in an ugly environment no matter how beautiful his surroundings." Please address this problem.

Please accept these comments as my official response to the proposed Resource Management Plan and incorporate them in your official records as not only my personal response but also the response of the Denver Geophysical Society. I hope they reflect the gist of many of the problems the geophysical community

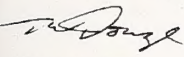
- 2 -

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sees with your draft proposal, and that many of them will be addressed in your final document.

Thank you for attending the recent February 22 informational meeting in Denver to review the proposed plan. Also, please thank Mr.'s Bill LeBarron, Don Judice, Dennis Stenger, and Dean Stillwell for there participation. It was a pleasure meeting all of you.

Yours truly,


Terry W. Donze
President
Denver Geophysical Society

- 3 -

Comment Responses

- 44-4 Most geophysical activities are not considered as surface disturbing activities and as such would not be subject to the no surface occupancy requirements. This is done on a case-by-case basis. See response to comment 27-9 for a discussion on how industry actions will be facilitated.
- 44-5 The Proposed Plan would allow geophysical operations within the South Pass Historic Landscape proposed ACEC if the plan of operations demonstrates that historical and visual resources would not be adversely affected.
- 44-6 See response to comment 29-8. Our intent is to manage candidate plant species in such a manner as to keep them from being listed as threatened or endangered. Therefore, maximum protection for these species will be provided. Areas designated as potential habitat are not closed to exploration operations. In the description of "Candidate Plants" in the RMP, it is clear that in potential areas, surveys need to be conducted to determine the presence of these plants. If after the survey, the plant is absent, then that area is withdrawn from the potential area and operations may commence.
- 44-7 These areas have been identified as containing resource values that are highly sensitive and fragile. Intensive oil and gas development permitted under standard lease terms and conditions would not protect them from serious degradation. See ACEC guidelines for additional interpretation of FLPMA and BLM responsibilities.

Only the Sand Dunes ACEC limits wells to one per section, and only in one part of the ACEC. This one well per section restriction is a surface restriction. Additional wells could be allowed to be drilled from one surface location to effectively drain any reservoir that may be found in this area. A Reasonable Foreseeable Development scenario was developed for the Sand Dunes area and is available as a reference document.

A leasing plan for Steamboat will be prepared. A reservoir analysis of this area will be included as a part of that leasing plan.

- 44-8 BLM only has authority to plan on public lands administered by the BLM. The Final will address impacts to private land.
- 44-9 I would like to address your comments regarding that "with all the stipulations on wildlife and plant habitat, there is only a small window of opportunity of about 3 months for exploration work." This statement is a misrepresentation. Yes, geophysical operations have to work within the sideboards, but geophysical operations in the GRRA work in a time period longer than 3 months. These stipulations do not occur throughout the entire resource area, and in areas where seasonal restrictions exist, there are opportunities for avoidance that allow exploration to continue throughout the year.



WESTERN GEOPHYSICAL

7229 S. Alton Way
P.O. Box 3118
Englewood, Colorado
80155-3118
(303) 779-8660
Fax: (303) 779-6862

February 26, 1993

Bureau of Land Management
Rock Springs Resource Area
P.O. Box 1869
Rock Springs, WY 82902

Dear Ms. Dana,

Thank you for your recent visit to Denver and clarification of the new RMP. Western Geophysical is filing its comments through the Petroleum Association of Wyoming and I have attached a copy of those comments for direct entry to your records. We are optimistic that the plan will work as per your presentation here in Denver, however we feel that it is important to express our reservations at this stage of the process.

We look forward to working in the Rock Springs District in the near future.

Sincerely,

DeWitt A. Morris
DeWitt A. Morris

DAM/ps

45-1 The paragraph of concern will be modified by inserting the following sentences. "Concern about unnecessary surface disturbance has caused government and industry to more carefully plan surveys. As a result, earth moving equipment is now only rarely used in seismic exploration work." See response to comment 27-9.



WESTERN GEOPHYSICAL

7229 S. Alton Way
P.O. Box 3118
Englewood, Colorado 80155-3118
(303) 779-8660
Fax: (303) 779-6862

February 25, 1993

Petroleum Association of Wyoming
951 Warner Court, Suite 100
Casper, Wyoming 82601

Gentlemen:

As per your request we have reviewed the Green River Resource Area - Resource Management Plan and Draft Environmental Impact Statement. Enclosed please find a copy with all references to geophysical highlighted with a yellow marker.

1 It is important to note the many references to seasonal restrictions and Table 2-10 which would limit seismic operations to 3½ months per year. Appendix 7-1 is an objective guideline for exceptions to Table 2-10, however recent experience indicated these exceptions are rarely granted. Page 720 paragraph 2 beginning "A typical" best illustrates the authors lack of awareness of the industry's efforts to operate in a manner compatible with today's environmental requirements. Western Geophysical has acquired more than 500 miles of seismic data in the Green River Basin since 1990 and the BLM has permitted dozing on none of those miles. As demonstrated by the IAGC Seismic Workshop in Baggs, Wyoming in May, 1991 seismic lines do not leave permanent trails when traffic is spread out according to BLM instructions or when operations are conducted over snow and frozen ground.

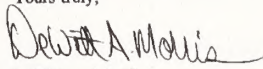
Clearly, much work has gone into the drafting of this document. Western has taken 40 days to review the contents and it is our recommendation that someone with a greater understanding of the law (NEPA, NHPA & ESA) be granted whatever time necessary to review it as well.

45

2 Generally speaking the document is reflective of our recent experience in the area. That is, that BLM management is most often cooperative and understanding of the need to develop as well as protect the resource. On the other hand BLM specialists (archeologist and biologist) rarely have the time necessary to assist in the development of avoidance procedures which would allow geophysical exploration to continue 12 months of the year. It appears that this plan would limit the workload of the specialist through seasonal restrictions rather than adopting procedures as defined within BLM Draft Manual and Handbook for Geophysical Operations as revised from BLM memorandum 92-122.

Western appreciates this opportunity to comment and if we can be of further assistance please feel free to contact me at (303) 770-8660.

Yours truly,



DeWitt A. Morris

DAM/ps

cc: Renée Dana, BLM - Rock Springs District ✓
Chuck Darden, IAGC



WESTERN GEOPHYSICAL

46

February 28, 1993

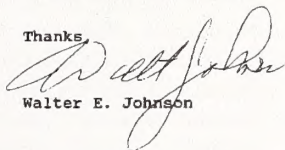
Renee Dana
Team Leader
P.O. Box 1869
Rock Springs, WY 82902

Dear Ms Dana

1 As past-President of the Denver Geophysical Society, I would like to thank you for coming to Denver to present the Green River Resource Area Plan. I would also like to congratulate you and your team on the fine piece of work.

I do have some problems with the wording concerning off-road seismic lines. I don't think that the language is clear that off-road seismic lines can be done when administered by the BLM office.

Thanks,



Walter E. Johnson

Comment Responses

45-2 Thank you for your comment. See response to comment 27-9.

46-1 See responses to comments 27-9, 27-10, 28-34, and 29-9. The text has been revised to clarify the intent of off-road vehicle use and related geophysical activities.



47

Powers Elevation Co., Inc.

February 26, 1993

Renee Dana, EIS Team Leader
Bureau of Land Management
Rock Springs District
P. O. Box 1869
Rock Springs, Wyoming 82902

Dear Ms. Dana:

With regard to the Draft Environmental Impact Statement and Resource Management Plan for the Green River Resource Area please note the following comments:

1. The BLM seems to arbitrarily assume that oil and gas activities require a high level of restriction, without analyzing the result of oil and gas leasing with only the standard terms and conditions.
2. Criteria for granting waivers, exceptions and modification to restrictions are too general. More specificity is needed with regard to weather severity criteria, habitat condition and availability, etc.
3. The proposed changes in management of geophysical activities should be eliminated. The current permit process for geophysical activities provides sufficient control.
4. Many of the proposed ACEC's have high potential for oil and gas exploration and development. The BLM must document the need for the ACEC's and why oil and gas activities have been deemed incompatible uses.
5. The BLM proposal to require all oil and gas roads to be paved and/or upgraded is excessive. Paving oil field roads would be a burden for operators already under extreme economic pressure and is entirely unnecessary. To require upgrading and gravel should be considered on a case-by-case basis and should apply to all users, not just the energy industry.
6. Requiring pit liners in areas with soil permeability of greater than 0.06 inch per hour is overly restrictive for operations not using oil-based muds or hazardous chemicals.

Thank you for the opportunity to comment on the DEIS/RMP.

Sincerely,

Janet Watson
Janet Watson
Project Administrator

OIL WELL ELEVATIONS • LOCATIONS • ENVIRONMENTAL • ARCHAEOLOGICAL AND USGS MAP SERVICES

P.O. Box 440899, Aurora, CO 80044
Phone 303-321-2217
Tel. Free 1-800-824-2560
FAX 303-321-2217

Comment Responses

47-1 See responses to letter 27.

47-2 See response to comment 27-5.

47-3 See response to comment 27-9.

47-4 ACECs are considered because FLPMA mandates that we give priority to the designation and protection of Areas of Critical Environmental Concern. Please see the revised text for additional information on ACECs.

47-5 See response to comment 27-24.

47-6 See response to 27-26.

48

GENE R. GEORGE
Geologist

350 WEST "A" STREET, SUITE 205
P.O. BOX 2775
CASPER, WYOMING 82602

OFF: (307) 265-9199
FAX: (307) 473-7138

April 16, 1993

Renee Dana, Team Leader
Green River RMP
Bureau of Land Management
P.O. Box 1869
Rock Springs, Wyoming 82902-1869

Re: Green River Resource Management Plan
Draft Environmental Impact Statement
Public Comments

Dear Ms. Dana:

As a Wyoming Registered Professional Geologist (No. 8), I find several items of great concern in the referenced DEIS. As I am involved in both the Oil and Gas Industry and the Trona Industry my comments are in two parts.

1. I am concerned that increased restrictions on oil and gas and geophysical activities are not based on factual data but on a presumed necessity. Current restrictions are more than adequately protecting the public lands and the general environment yet allowing for orderly development. Your Preferred Alternative assumes that more environmental restrictions are necessary. I am also concerned that restricted activities in the critical winter habitats do not take into account the very short periods of use required by the oil and gas drilling and production. Gas is particularly clean and the activity around the wells is very limited. How is the optimum herd size for antelope (not endangered or threatened) in an area determined? If the herd size is reduced by natural causes such as hard and long winters, does the size of the required critical winter habitat decrease accordingly? If not - Why not?
2. I am pleased to not see any new restrictions on sodium minerals activity. I am uncertain if the Vegetation Management plan under the Preferred Alternative requirement to leave a 100 foot wide buffer strip adjacent to perennial streams would restrict or prohibit pipeline crossings, haul roads and railroads. I would be opposed to this if the restriction would not allow mitigation by restoration.

Thank you for your attention.

Sincerely,

Gene R. George
Gene R. George

48-1 See responses to comments 27-1, 27-8, 27-14, and 30-1. Most restrictions that apply to geophysical activity are not new and do not apply solely to geophysical activity. Appendix 7-1 describes the processes of analyzing whether an action would adversely affect animals on the crucial winter range and short periods of use were taken into account at the review stage.

Antelope herd numbers are established by the Wyoming Game and Fish Department in consultation with other government agencies and the public. If a herd is reduced one year by natural causes, this may not result in changes to crucial winter range boundaries. However, if over a period of years the herd does not reestablish itself, use patterns change, or a change seems permanent, the boundaries of the crucial winter range may then be adjusted. Slopes, distances from waters, seasonal watershed, wildlife conditions, and other stipulations are presently placed on oil and gas leases. We do not anticipate any additional stipulations to oil and gas leases than presently exist except for some change in ACECs. The BLM is responsible for habitat management on public lands, while the Wyoming Game and Fish Department is in charge of wildlife populations in Wyoming. They develop wildlife population parameters based on public demand (hunting and wildlife viewing), depredation, and a variety of habitat factors. Seasonal distribution maps and crucial big game habitat boundaries are revised regularly.

48-2 The 100- and 500-foot buffer strips along water bodies are primarily designed to protect water bodies from parallel disturbances. (A road running directly adjacent to a channel can cause a great deal of disturbance to the natural water flow.) Crossings of linear features (roads, pipelines, etc.) are generally allowed with mitigation.

49

(transcribed and typed for readability)

Jerry P. Devin,

Mr. Bill LeBarron
Bureau of Land Management
Rock Springs District Office
P.O. Box 1869
Rock Springs, WY 82902

Dear Mr. LeBarron,

I am writing this letter by hand to emphasize my concern. I am addressing your Resource Management Plan that affects some 60 percent of the land area in the Greater Green River Basin.

1 From this information I have received I would like to follow Alternative B as it appears to be the least restrictions of the alternatives being considered by the BLM in the Green River Resource Plan.

My wife is a new legislator to the Wyoming Legislature and has seen the tremendous struggle this state is having with revenues. We also need to increase the number of well paying jobs. Natural gas is a clean fuel and this area is projected to have large resources. I urge you to allow adequate gas exploration in this area.

Sincerely,

/s/ Jerry P. Devin

50

GREG L. DAY

Page 1 of 1

VIA FAX (307-362-6001) and
U.S. Mail

March 3, 1993

Bureau of Land Management
Rock Springs District
P.O. Box 1869
Rock Springs, Wyoming 82902

Attn: Renee Dana

Re: Green River Resource Area
Resource Management Plan and
Draft Environmental Impact Statement

Dear Ladies and Gentlemen:

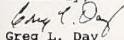
Having reviewed the captioned document, I respectfully request that you review and consider the following comments. First of all, I would expect that you might agree that any attempt to ascertain what is best for all in an area encompassing this much public land is a monumental task, at best. Obviously, much work has been done by the BLM and others to compile such a large volume of information about the area, and the possible uses of the area. In spite of this wealth of information, it does not appear that the DEIS supports the BLM's preferred alternative.

1 The DEIS places greater restrictions on oil & gas activities on a broad scale; should the DEIS be approved, in my opinion, it will substantially decrease future oil & gas activity in this area, to the ultimate detriment of individuals within the area, individual companies, as well as the local, state and federal governments. In my mind, this would be justifiable if the information in the DEIS conclusively pointed towards major harm to the resource area by oil & gas operations; however, I do not think that the DEIS has proved up the BLM's preferred alternative. In contrast, it appears that the DEIS actually points out that a minimum of surface disturbance will occur even if the maximum number of wells were drilled during the next twenty (20) years.

When you factor in the oil & gas industry's increased awareness of sound resource management, as well as its increased willingness to work professionally with local, state and federal government (not to mention many outside groups who have their own diverse agendas), it seems to me that the increased restrictions on oil & gas activities set out in the BLM's preferred alternative are unwarranted.

I sincerely hope that additional consideration is given to this matter before a decision is rendered. I thank you for the opportunity to present my views, and would be happy to discuss this matter with you in greater detail in the future.

Sincerely,


Greg L. Day

Comment Responses

49-1 Thank you for your recommendation for land use management. This advice has been considered along with all other public comment provided. The selection of our proposed resource management plan seeks a balance between production or commodity uses and protection of the environment.

50-1 We feel we have implemented the concepts of multiple use in this document along with the laws of Congress and related policies. See response to comment 27-1. We believe there will be some increased cost and reduced activity associated with additional restrictions but do not agree that a substantial decrease in activity will occur. We also agree that the oil and gas industry has become more aware of sound resource management.

Comment Responses

51-1 See response to comment 49-1.

51 Hyland Enterprises, Inc.



If We Can't Get Them, Nobody Can

P.O. Box 2377

Rawlins, Wyoming 82301

(307) 328-0668

April 15, 1993

Bureau of Land Management
Rock Springs District Office
P. O. Box 1869
Rock Springs, WY 82902

RE: Green River Resource Management Plan and Draft
Environmental Impact Statement

Gentlemen:

- 1 Since the gas will have to come out of the ground sometime and due to the sad state of the economy in Wyoming, I believe we should proceed with drilling and production at whatever rate the oil companies deem feasible.

I have been in the oilfield since 1968 and I have seen deer and antelope right next to locations while they were drilling. You will find their tracks on most any location that is producing. They seem to adjust very well.

If I can be of further information or assistance do not hesitate to call.

Sincerely,

Doug Dowlin
President

DD/mja

KN PRODUCTION COMPANY

52

KN Production Company
141 Union Blvd., Suite 400
P.O. Box 281304
Lakewood, CO 80228-9304
(303) 980-9340

George M. Simmons
President

March 5, 1993

Ms. Renee Dana
EIS Team Leader
Bureau of Land Management
Rock Springs District
P. O. Box 1869
Rock Springs, WY 82902

RE: Green River Resource Area
Environmental Impact Statement
and Resource Management Plan

Dear Ms. Dana:

- 1 As we wind down this century, the decade of the nineties has piqued the conscience of both the private and public sector with respect to our earth as a wasting asset.

There's no question of the damage man has done to the land, but much of the damage which we legislate against is the unrecognized consequence of natural selection, ecological succession and evolution itself. Our bureaucracy has lost sight of the over all goal and has become bogged down in support and protection of special interest.

Now comes the Clinton administration with a well meaning package of programs and goals to put America back to work, restore the American Dream and clean up our environment.

As you well know, natural gas has to be the fuel of choice for a cleaner America. I know of no other section of the country so rich in natural gas resources; an area so strategically located and market responsive, which can, at the same time, easily accommodate development as the Green River Resource Area.

Your plan addresses all kinds of impacts on land surfaces, game, fish and competing uses. All which are well justified cautions, but all which propose or impose further delay and restrictions to future development of natural gas resources. Now we have Areas of Critical Environmental Concern (ACEC). We are using governmental agencies, studies and reports to create an ever more complicated morass of regulations. I wonder if this is really what Teddy Roosevelt had in mind?

We need to implement the concepts and enjoy the benefits of multiple land use; designing regulations which enhance and expedite in lieu of those which restrict and impede resource development.

Very truly yours,

George M. Simmons
President

52-1 Thank you for your comment.

April 9, 1993

Mr. Bill LeBarron
Bureau of Land Management
Rock Springs District Office
PO Box 1869
Rock Springs, WY 82902

Dear Bill,

It was a pleasure seeing you Wednesday morning in Rock Springs and having you attend our meeting regarding the Green River Resource Area Resource Management Plan.

As you know, Wyoming is committed to developing its natural gas resources. The rationale and reasoning behind the state's support of a natural gas pipeline to California (the new \$1 billion Kern River line) was based on four vital factors. Those were as follows.

- 1.) Wyoming has vast natural gas reserves, with an estimated production life of 167 years at current production rates.
- 2.) Natural gas markets continue to grow and develop, and to access these markets, Wyoming has to have pipeline transmission capacity, which now has been achieved with the completion of the Kern River pipeline.
- 3.) Natural gas markets will continue to expand and national policy priorities emphasize the growth of this environmentally clean, efficient, and abundant resource.
- 4.) Wyoming's tenuous and unstable state government revenue picture can be healthy if natural gas production, and revenues, are allowed to increase.

According to the Wyoming Oil and Gas Commission, Southwest Wyoming has become a very significant "gas hub". At the center is an area that is referred to as the "Bull's Eye," or the Green River Basin.

Your Resource Management Plan effects some 60 percent of the land area in the greater Green River Basin. The plan, in and of itself, therefore can influence greatly resource use—including natural gas development.

STEERING COMMITTEE
Carl Adrian, Casper
Stan Bader, Cheyenne
Ell Bebout, Riverton
Roger Brown, Casper
Robert C. Bryant, Casper
George Bryce, Casper
Gary Burchette, Sheridan
Charles Chidsey, III, Boulder
Forrest Clay, Worland
Frank Cook, Cody
Ken Dailey, Green River
John Faunce, Cheyenne
Dave Filmer, Greybull
David B. Fuller, Parkman
Jim Geringer, Wheatland
Marshall Gile, Denver
Ed Gladish, Fort Worth
Roger Harris, Green River
Will Hanson, Green River
John Hay, III, Rock Springs
Jim Harlickhoff, Wright
Truman Julian, Kemmerer
Rod Kinsey, Casper
Thomas J. Lien, Gillette
Tom Lockhart, Casper
Steve Loftin, Casper
Manuel Lopez, Jackson
Cynthia M. Lumley, Cheyenne
Mark Marquardt, Laramie
Don Meike, Kaycee
Edward O. Moore, Douglas
Warren A. Morton, Casper
Richard Nelson, Powell
Sharon Nichols, Casper
Brad Palm, Elk Mountain
Elmer Parson, Jr., Casper
James E. Nielson, Cody
Robert Peak, Riverton
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Kathleen Sun, Rawlins
Wm. R. Tallero, Rock Springs
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H. A. "Mark" True, III, Casper
Ed Wagoner, Cheyenne
Gary Wickam, Cheyenne
John Wicks, Casper
Steve Woodruff, Evanston
Charles Wright, Cody
Bill Schilling, Executive Director

Working Together for a Better Wyoming

53-1 See response to comment 63-1.

53

Mr. Bill LeBarron
April 9, 1993
Page 2

1 Alternative B appears to be the least restrictive of the four alternatives considered by the BLM in the Green River Resource Plan. The Wyoming Heritage Society would recommend the following.

- 1.) Increase projected natural gas production numbers (p. 473) to reflect an increase of 250% over the next 20 years. This production increase would be consistent with projections by the Department of Energy, Gas Research Institute, and other national groups.
- 2.) Rework Alternative B using a production scenario equivalent to a 250% increase in natural gas production. The revised alternative should assume this new production level and then reexamine mitigation factors and other resource uses to determine whether they should be changed/updated in order to facilitate the development of Wyoming's natural gas potential.

Wyoming's economy is struggling. While economic diversification is important and necessary, so, too, is the development of our state's mineral resources. Natural gas development on the level projected by national experts (the 250% increase) translates into 1,200 new jobs, over 2,400 secondary jobs, an annual payroll of \$36 million, and additional retail sales of some \$16 million. In terms of new state and local government tax revenues, the increase would generate to over \$500 million a year (on average) over the next 20 years.

I appreciate your interest in the development of Wyoming's natural resources and look forward to seeing the BLM's revised management plan.

Very sincerely,



William C. Schilling
Executive Director

WSC/ttr



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 Carl Adrian, Casper
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 Roger Brown, Casper
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 Kathleen Sun, Rawlins
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 Tom Thorson, Mills
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 R. A. "Dove" Truitt, Jr., Casper
 R. A. "Hawk" Truitt, III, Casper
 Ed Wappler, Cheyenne
 Gary Wickham, Cheyenne
 John Wild, Casper
 Steve Woodruff, Eronston
 Charles Wright, Cody
 Bill Schilling, Executive Director

April 19, 1993

Mr. Bill LeBarron
 Bureau of Land Management
 Rock Springs District Office
 PO Box 1869
 Rock Springs, WY 82902

Dear Bill:

On behalf of the Wyoming Heritage Society, I wish to make the following comments regarding the Green River Resource Management Plan and Draft Environmental Impact Statement. Our comments focus on the importance of multiple use activities in Wyoming and the dependency of Wyoming on the tax revenues and jobs created from federal lands in our state.

As you know, approximately 50 percent of Wyoming's land areas are owned and managed by the federal government. The economic contributions from activities on these federal lands to the state are enormous. Cattle and sheep production, timber activity, tourism development, oil and gas exploration and production, trona mining, coal mining, and other extractive activities are influenced significantly by federal land management decisions.

In the state of Wyoming the relevance of economic activity is particularly pertinent at this time. Personal income in our state has declined steadily since 1980 and will continue to do so until the year 2000. The state's tax revenue base has dropped in a corresponding fashion as well. Assessed valuation in 1982 was \$8.1 billion. Today it is \$6 billion--a drop of 26 percent. Average payrolls have declined. Some 12 percent of the people in Wyoming's labor force have two or more jobs--compared to the national average of six percent.

The importance of these facts and conditions is self-evident. The role of the Bureau of Land Management as well as other federal agencies, is to effectively manage the land and natural resources. It is the belief of the Wyoming Heritage Society that as management strategies are planned and developed, the BLM needs to be sensitive to the state's economy and its citizens. Given this context, we would recommend the following considerations for the Bureau of Land Management Plan for the Green River area.

Working Together for a Better Wyoming

54

Mr. Bill LeBarron
 Page 2
 April 19, 1993

1. While the Wyoming Heritage Society has previously addressed the issue of natural gas development, we reiterate our support for natural gas development but also observe that increased natural gas development should not be at the expense of unique and vital resources currently being developed in the state. In particular, the trona industry in southwestern Wyoming is an especially important economic sector. New natural gas development that would interfere with on-going, planned, and long term future expansion plans for the trona industry should be discouraged.
2. In so far as grazing activity is concerned, it is the belief of the Wyoming Heritage Society that Wyoming's cattle and sheep industries need to be not only maintained, but enhanced. In this respect, excessive wildlife populations which hurt rangeland conditions should be reduced in the future so that the cattle and sheep industries may continue to remain economically viable.
3. With regard to non-consumptive resources such as wildlife and tourism, it is the belief of the Wyoming Heritage Society that these resources can and should continue. Commodity development activities do not necessarily compete with these resources. If fact, we believe that it is incumbent to prove to the contrary that the development of resource activities has negatively influenced in the past, or will in the future, tourist activities and wildlife populations.

Overall, the Wyoming Heritage Society believes that the Resource Management Plan is important, but that the plan needs to encourage productive economic activities. Very real concerns exist regarding mitigation standards and rules and regulations which serve to inhibit legitimate, practical, and reasonable economic endeavors. It is our belief that the Bureau of Land Management needs to evaluate its planning models and resource production goals. There is a need to establish production limits, goals, and potentials first and then work backwards as to how the plan can encourage the implementation and obtainment of these goals and potentials.

Should you have any questions or concerns regarding our suggestions for the Resource Management Plan, please do not hesitate to contact us.

Very sincerely,

Tom Thorson

Tom Thorson
 President

TAT/rrr

54-1 See response to comment 31-8. The BLM and the authors of this document understand the importance that multiple use activities have on the economy of the State of Wyoming. The RMP is consistent with the mission of the BLM and follows the intent of FLPMA, which provides a definition of multiple use as follows:

"Harmonious and coordinated management of the various resources without permanent impairment of the productivity of the land and the quality of the environment with consideration being given to the relative values of the resources and not necessarily to the combination of uses that will give the greatest economic return or the greatest unit output."

Production goals for the minerals programs seem to be very realistic. As of mid-1993, the BLM's projected production goals under the preferred alternative have not been met by industry. BLM and other agencies are required to administer the laws enacted by Congress. Through administration of these laws, BLM is managing the lands for multiple use of the resources. See response to comment 63-1.

P.O. Box 1168
Rock Springs, Wyoming 82902
(307) 362-7405

April 16, 1993

Bureau of Land Management
Rock Springs District Office
P. O. Box 1869
Rock Springs, Wyoming 82902

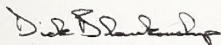
Dear Sirs:

1 We feel we must strongly urge the Bureau of Land Management to consider rewriting the oil and gas section of the Green River Management Plan. The Plan does not recognize the enormous potential for future gas production on federal lands. It projects no increase in production over the next twenty years.

Our concern is for the future development of the economy of Sweetwater County. If the plan will acknowledge the vast gas reserves and allow for increased production, the economy will be positively effected, creating new jobs and increased tax revenue. At the levels presented in the current management plan, Sweetwater County could lose millions of dollars in tax revenue and thousands of jobs.

Multiple use of the land in Wyoming and Sweetwater County is imperative to future growth. Management of the environment should also include the wise and productive use of its natural resources.

Sincerely,



Dick Blankenship
President

DB/dr

Sweetwater County...
by choice

Comment Responses

55-1 See responses to comments 54-1-a and 63-1.

56

Office of Planning and Development

Lincoln County, Wyoming

P.O. Box 468
Kemmerer, Wyoming 83101-0468
(307) 877-9056

1-800-442-9001 (in Wyoming)
FAX: (307) 877-3101

April 16, 1993

Renee Dana, Team Leader
Bureau of Land Management
P.O. Box 1869
Rock Springs, WY 82902

Re: Green River Resource Area Resource Management Plan Draft
Environmental Impact Statement.

Dear Ms. Dana,

1 On behalf of the Lincoln County Planning and Zoning Commission, I would like to express our appreciation for the opportunity to comment on this project. Pursuant to our review of the scoping statement, the following issues should be addressed:

Lincoln County's major economic base is agriculture and mineral production. Therefore, any change in management procedures which will effect these activities should be carefully reviewed.

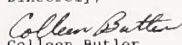
We believe an impact statement is required for this and other land use planning activities in Southwest Wyoming. Specific items that should be addressed are:

- impacts on livestock usage of the area and
- oil and gas production in the area.

Any alteration of current use which will eliminate, decrease, or increase the number of livestock to be grazed or oil and gas wells to be drilled on this or any public lands has potential to change the economic stability of our rural ranching community. Therefore Lincoln County requests an in-depth evaluation of the economic impact of alternatives on the community.

Please keep the Lincoln County Planning Office informed of any further developments on this project. If you have any questions or comments please contact Colleen Butler at 877-9056 Ext. 340.

Sincerely,



Colleen Butler
Current Planner

56-1 We agree that livestock and oil and gas development are economically important to the stability of your community. Additions to the economics portions of this document have been made in response to comment letters received, and when additional data and information has been supplied that is relevant to analysis of the affected environment, alternatives, or environmental consequences. We believe that the information provided in the RMP Draft EIS and this new analysis is an adequate evaluation of the economic impact on communities in the area.

Changes in Wyoming's economy are increasingly becoming dependant on or related to national and world economies and especially their rapid shifts and changing trends. As such, economic studies are often out-dated by the time they are published or within a few years.

An in-depth evaluation of economic impact to Lincoln County such as you request will be considered and included in the forthcoming re-evaluation of the Kemmerer Resource Area RMP. We appreciate receiving any updates, changes, or additions to Lincoln County's Land Use or economic plans.

April 13, 1993

Renee Dana
Team Leader
Box 1869
Rock Springs, WY 82902

Dear Ms. Dana,

I would like to take this opportunity to make a comment concerning the Draft Resource Management Plan Environmental Impact Statement for the Green River Resource Area.

As a person involved in economic development in Wyoming, I am concerned that we consider the economic consequences of decisions made in documents such as this one. Wyoming is a state with a tax base dependent upon the extractive minerals industry. We are fortunate to have resources that can be produced by companies that create jobs for Wyoming residents and pay taxes to the state. Because of this tax base, we are able to keep the tax burden for other types of industry low, making Wyoming more desirable to them and making it easier to attract companies like manufacturing operations.

I would like to see this study reflect the need to maintain or increase the source of this tax generation, natural resource production. In the analysis, Table 4-11, Alternative B, shows an increase in gas production from about 26,000 MMCFD to 35,000 MMCFD, about a 35% increase. The other alternatives show a decrease in gas production. Wyoming has one of the largest gas reserves in the nation. We have recently begun production of that gas through the Kern River Pipeline to California. There is talk of increasing the capacity of that line to sell even more gas. I read this morning about companies planning to build two additional gas processing plants in Sweetwater and Carbon Counties. Gas prices are stabilizing. Gas reserves are depleting in other parts of the country. Some sources in the industry indicate Wyoming has the potential to increase production by 250% by the year 2010.

- 1 All of these factors indicate there is a much greater potential for increased gas production than is currently evaluated in this document. I would like to see an alternative that evaluates a scenario with a 250% increase in gas production from the Green River Resource Area. If Wyoming is to continue its current level of services, favorable tax structure, and quality of life, we will have to depend on this type of increase in production. The analysis should be done now so when increases are proposed in the future, they will already be evaluated.

225 Ninth Street, Evanston, Wyoming 82930
(307) 789-4261

Comment Responses

57-1 See response to comment 63-1.

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Renee Dana
April 12, 1993
Page 2

Thank you for your consideration of this request.

Sincerely,



Ken Klinker
Coordinator
UCEDC

THE CHAMBER 58

Rock Springs Chamber of Commerce
1897 Dewar Dr. • P.O. 284 • Rock Springs, Wyo., 82901

April 12, 1993

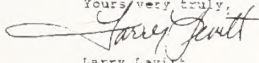
Mr. Bill LeBarron
Bureau of Land Management
1993 Dewar Drive
Rock Springs, WY 82901

Dear Mr. LeBarron:

1 We are writing to express some concerns of Rock Springs Chamber of Commerce Members with regard to the Green River Area Resource Management Plan and Draft Environmental Impact Statement. The concerns center on the issue of multiple use of public lands, including the effects that additional restrictions could have on privately-held lands.

2 In light of recent information published by private sources, the Chamber is concerned that Wyoming gas development could far exceed what is projected by the Bureau's Management Plan. We request that the Bureau reevaluate these projections and the potentially negative impact that underestimating them could have on Sweetwater County's economy and the economic growth of the State.

Yours very truly,


Larry Levitt
President

MR:eb



59

John W. Hay, Jr., President
Rock Springs Grazing Association
333 Broadway
Rock Springs, Wyoming 82901

April 16, 1993

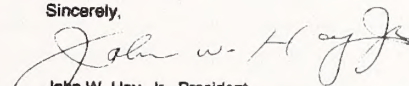
Mr. William W. LeBarron
Green River Resource Area
1993 Dewar Drive
Rock Springs, Wyoming 82901

Dear Mr. LeBarron:

1 This is to inform you that the Rock Springs Grazing Association feels that it is a mistake to set up all the restricted use areas you have in the proposed Green River Area Resource Management Plan and Draft Environmental Impact Statement.

This plan not only regulates public lands, but it also directly affects our private lands. Therefore, before any final decisions are reached pertaining to the land use, the private land owners should be consulted.

Sincerely,


John W. Hay, Jr., President
Rock Springs Grazing Association

Comment Responses

58-1 See response to comment 54-1. In the development of this RMP, we have coordinated with the public, private landowners, industry, environmental groups, ranchers, and local, state, and county governments. Input was sought from interested parties in the development of this plan. Whenever possible, we tried to integrate management efforts with private landowners; however, BLM has no management authority on private land. This RMP covers management actions for 3.6 million acres of public lands. We plan to work with interested landowners such as UP and Rock Springs Grazing Association in developing an agreement on how we could work together to meet common goals in the checkerboard.

58-2 See response to comment 63-1.

59-1 This RMP covers management actions for only public land. The GRRA understands the need to work in a cooperative manner with private landowners. The Rock Springs Grazing Association and the BLM have worked together since the beginning of the Grazing Service in 1934. We plan to meet with you and UP to see if we can come up with an agreement on how to continue cooperative effort in the checkerboard.

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Albany County
School District One



1948 GRAND AVENUE
LARAMIE, WYOMING 82070

PHONE (307) 721-4400
FAX (307) 721-4408

Dr. Charles Head
Superintendent of Schools

April 19, 1993

Mr. Bill LeBarron
Bureau of Land Management
Rock Springs District Office
P.O. Box 1869
Rock Springs, WY 82902

Dear Mr. LeBarron,

1 I have just received information about the comment period for the BLM plan for a portion of the Green River Basin. As I am sure you are aware, the economic condition of Wyoming makes it very difficult for the citizens of Wyoming to fund their public school system to the extent that they would like to. Just about the only source of revenue available is Wyoming's natural resources. The proposed plan would handicap our efforts to fully utilize our great natural resources. Consequently, speaking on behalf of education, I am totally in support of an alternative plan which would allow for the market to dictate the level of increase of natural gas production in the Green River Basin.

Your support of our request would be greatly appreciated. If I need to provide any additional information, please do not hesitate to contact me.

Sincerely,

Charles Head
Superintendent of Schools

CH/dnj

Comment Responses

61-1 Thank you for your recommendation for land use management of the natural gas resource. This advice has been considered along with all other public input provided. The selection of this proposed resource management plan seeks a balance between protection of the environment and production or commodity uses.

We believe that the market is the dominant factor in dictating levels of oil and gas activity and will continue to be the dominant factor. Additional restrictions will have some effect on the number of wells drilled but, economics, technology advances, and capacity of the gas transportation network will have a greater effect on the number of wells drilled. Also see response to comment 28-8.

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BARLOW & HAUN, INC.
GEOLOGISTS

January 15, 1993

Mr. Dean Stillwell
Bureau of Land Management
Rock Springs District
P.O. Box 1869
Rock Springs, WY 82902

RE: Green River Resource Area
Resource Management Plan and Draft
Environmental Impact Statement

Dear Mr. Stillwell:

We are in the process of reviewing and evaluating the Green River Resource Area Management Plan so we may respond to your request for comments.

1 Our preliminary feeling is there are discrepancies in underlying data, and important literature references and data have not been used for estimates of remaining natural gas reserves and resources.

2 The report might further benefit from the considerable database on current and future natural gas supply and demand patterns in the United States, on the comparison of competing supply area economics, and on a review of the available infrastructure of pipelines and gas plants (in place and planned).

These topics will properly need to be discussed in order for the final document to fully serve its intended purpose.

Our firm and other professional groups have devoted a large effort to the foregoing topics during the past fifteen years. If you feel it would be helpful, we could discuss ways in which existing data could be made available to facilitate the timely and accurate completion of your study.

Very truly yours,

Mark J. Doelger

c: Jim Barlow
Don Baeko
Gary Glass

NJD/JAS/mjn
s:BLNGRPIn.Ltr



MINERAL RESOURCE CENTER
518 WEST SECOND STREET, SUITE 33
CASPER, WY 82601-2465
PHONE (307) 234-1574
FAX (307) 234-1576

62-1 See responses to comments 17-2 and 63-1.

62-2 See response to comment 63-1.

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GEOLOGISTS

April 16, 1993

MINERAL RESOURCE CENTER
136 WEST SECOND STREET SUITE 3B
CASPER, WY 82401-2463
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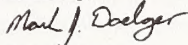
Ms. Renee Dana
Team Leader
Bureau of Land Management
Highway 191 North
Rock Springs, WY 82901

Dear Ms. Dana:

Please find enclosed Barlow & Haun, Inc.'s response to the Bureau of Land Management's 1992 three volume Green River Resource Area Resource Management Plan and Draft Environmental Impact Statement. Our twelve page response includes Attachments 1 and 2, Figures 1 through 6, and Graphs 1 through 4.

We will look forward to receiving a copy of the public's comments, and please feel free to contact our office with any comments or questions related to our response.

Sincerely,



Mark J. Doelger
Vice President

MJD:bjt

Enclosures

Comment Responses

63-1 Technical Discussion of Natural Gas Supply in Relation to Available Resource and Production Data

Estimates of future natural gas production by the Gas Research Institute, the National Petroleum Council, and the California Energy Commission had not been published when we made drilling and production projections for this document. For this document, we chose to use past drilling activity to project future drilling. We selected this method after consulting with the Rocky Mountain Oil and Gas Association on January 17, 1991.

In order to assess positive and negative impacts due to activity and to proposed restrictions, the most probable future projection was assumed for Alternative A and the maximum future projection was assumed for Alternative B. The most probable future projection was modified for the other two alternatives to give an idea of the relationships and impacts of adding restrictions. We assumed that Alternative C restrictions would cause some reduction in drilling activity. Since the Preferred has slightly fewer restrictions than Alternative C, we assumed some additional wells would be drilled but, there would still be fewer than projected for Alternative A.

To understand the differences in our estimate compared with those of the three referenced publications, we analyzed Petroleum Information well data. This Wyoming information is part of Petroleum Information's CD-ROM data base and is current through the fourth quarter of 1993. We counted total wells drilled and total producing wells drilled in the Wyoming portion of the Greater Green River Basin and in the Green River Resource Area. We found that although the Resource Area covers about one half of the Greater Green River Basin, less than one third of the total wells drilled and total producing wells lie within this area. In addition, if Greater Green River Basin wells drilled in Colorado's Sand Wash Basin and wells drilled in Utah, at the southern end of the Moxa Arch, had been included in this analysis, then the percentage of Resource Area wells would be reduced even further. This information indicates that the greater amount of drilling activity has occurred outside the Resource Area.

We feel it would be reasonable to assume that no more than one third of all new wells to be drilled through 2010, would be drilled within the Resource Area. This means about 2,400 wells could be drilled using your information. This number falls within our range of 1,328 wells as the most probable future projection and 2,485 wells as the maximum future projection. The Petroleum Information data base indicates a total of 237 wells were drilled during the first four years of our original projection (1990, 91, 92, and 93). The total for 1993 could increase this number slightly, since it is probable that all 1993 completions had not yet been recorded when the information was retrieved. The total of actual wells falls below our projection of 423 wells for the maximum future projection and the 274 wells of the most probable future projection.

Since actual activity over the past four years closely matches our most probable projection, we feel there is no need to change it. We do agree that it is possible and probable that actual activity over the period from 1990-2010 will be greater than the most probable projection. As discussed earlier, we feel that the most probable projection coupled with our maximum projection gives a reasonable range of future activity.

Our maximum projection closely matches other future projections you have cited, when taking into account that past activity indicates only one third of all future wells may be

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RESPONSE TO THE BUREAU OF LAND MANAGEMENT'S GREEN RIVER RESOURCE AREA RESOURCE MANAGEMENT PLAN AND DRAFT ENVIRONMENTAL IMPACT STATEMENT FROM BARLOW & HAUN, INC. Casper, Wyoming

I. SUMMARY OF PRESENT POSITION AND PREVIOUSLY SUBMITTED COMMENTS

The Green River Resource Area should be managed so it will play a significant role in the future energy needs of the United States. Natural gas resources within the area of the Resource Management Plan (RMP) are recognized by national gas resource planners as world class and constitute an important future supply.

There is an infrastructure of natural gas pipelines and gas processing plants presently in place in southwestern Wyoming. These physical facilities constitute the Opal Hub. These facilities are in place, and natural gas is currently being shipped to most major markets in the United States from the Opal Hub, including California, the Midwest, and all other markets through interconnected hubs in the Texas Gulf Coast. Figure 1 shows the U. S. natural gas hub system. These are the major market centers for natural gas processing, exchange between buyers and sellers, and the point of contract terms and sales. Total cost of the Opal Hub gas servicing lines and plants is several billion dollars, and approximately \$2.5 billion of this has been added in its development in the past twelve years.

The Green River Resource Area is important to the state and local economies as well as to the national energy supply. More than half of the natural gas resources of the State of

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Wyoming are located within the greater Green River Basin, and the Green River Resource Area covers about one-half of the total basin area. Because of this significant natural gas supply and the facilities, it is important that private industry, the State of Wyoming, and the Bureau of Land Management (BLM) work together for a first rate understanding of the gas resources and then develop land use priorities as to natural gas and other resources in the Green River Resource Area.

In the present draft of the Green River Resource Area RMP, the land use for natural gas is very restrictive, and natural gas does not have much priority. We stress that the practical effect of restrictions placed on oil and gas leases is, in many cases, so severe that drilling and development activity will not proceed, even though the lands are not (on paper) withdrawn. If the plan is left unchanged, a large part of the natural gas resources will be underdeveloped and the present investments will be stranded in underproduced natural gas resources and underutilized pipelines and gas plant facilities. Now is the time to fully understand the gas resource and balance its value -- pro or con -- against other resources, and then plan which and how much of each resource is important to us.

Our firm made comments on the Green River RMP at the February 16, 1993, public hearing in Rock Springs. A copy of

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drilled within the Resource Area. With this information in mind, we feel there is no need to change this projection either.

Information you have supplied about the cost of expanding the oil and gas infrastructure and reserve estimates will be inserted into the document. The three references on estimates of future natural gas production will be included as references in the EIS. Since some bibliographic citations you have supplied were not originally referenced in the Management Situation Analysis, we will add those to that supporting document.

In preparing this document, we determined that the entire Resource Area had a high potential for the occurrence of hydrocarbons. We further subdivided the Resource Area into regions of high, moderate, or low potential where exploration and development activity was likely to occur through the year 2010. We then asked all active oil and gas companies in the Resource Area, for assistance in adjusting the boundaries for these three areas. Their replies were consolidated into our final map. The resulting mapped areas do outline high potential areas where exploration and development activity is concentrated and where companies expect to concentrate their activity. Low potential areas are where few wells are located and where companies expect minor amounts of exploration activity to occur.

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those remarks is attached (Attachment 1). At that time, incorrect figures were discussed which were used in the BLM's Table 4-11 (Page 473), titled "Oil and Gas Projected Production from 1989-2010." The effect of the errors carries through to the drilling activity and production data on the BLM's Table 2-2 (Page 102), resulting in underestimated economic projections and also carries through in economic discussions on Pages 508 and 510 of the RMP.

The Barlow & Haun, Inc. statement made on February 16 included several questions and concerns in addition to the wrong data problem. The BLM did make a revised Table 4-11 dated February 24, 1993; but once again, the projection is for no growth in the production of natural gas (Graph 1). We again bring up the same questions and concerns raised February 16 because the use of available and accurate data are essential to the validity of the plan. This is discussed in further detail herein, as follows.

II. APRIL 16, 1993 COMMENTS ON THE PLAN

Barlow & Haun, Inc. asks that the BLM review and consider the following three topics and then include the BLM findings in the final draft of the plan.

1. Technical Discussion of Natural Gas Supply in Relation to Available Resource and Production Data
2. Economic Benefits of Natural Gas to Local and National Interests

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3. Unjust Taking of Property Problems

1. Technical Discussion of Natural Gas Supply in Relation to Available Resource and Production Data

Estimates of future natural gas production by the Gas Research Institute (GRI), the National Petroleum Council (NPC), and the California Energy Commission (CEC) are shown on Graph 2. The rate of increase of natural gas production projected by these and other organizations for the Rocky Mountain region is 2.7 to 3.0 times the present rate in the twenty-year period from 1990 to 2010. Since 1980 there has been an investment of about \$2.5 billion in the infrastructure of natural gas pipelines and gas processing plants in the area of the Opal Hub in order to meet the growing demand for natural gas production from southwestern Wyoming. The amount of future drilling and production in the Green River Basin is based on the projections by the Gas Research Institute, the National Petroleum Council, and the California Energy Commission, and is shown on Graph 3. The differences in these estimates and the estimates of the BLM, as presented in their published and revised Table 4-11, need to be resolved if the BLM plan is to have any validity.

These estimates of gas supply potential are rooted in the geologically controlled occurrence of natural gas,

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and a regional perspective is helpful. The locations of geologic basins in the central Rocky Mountain region are shown on Figure 2. The gas-prone Green River Basin, Thrust Belt, Wind River Basin, Uinta Basin, and Piceance Basin form a bulls-eye area of natural gas occurrence, which is surrounded by oil-prone basins or areas with less significant potential natural gas supply. The Green River Basin accounts for 8.5 Tcf (40%) of the 21.3 Tcf total cumulative production from central Rocky Mountain basins, and 6.0 Tcf (42%) of the 14.3 total remaining reserves, and 44.5 Tcf (43%) of the 102.7 Tcf undiscovered resources, as shown on Figures 3, 4, and 5, respectively. Reserve estimates for each state are made by the Department of Energy and the Energy Information Administration, and undiscovered resources for each basin made by the Potential Gas Committee are shown on Figures 4 and 5. These data regarding future supply volumes support the production projections shown on Graph 3.

The total area of the Green River Basin is approximately 11 million acres; of which 5.4 million acres, or nearly 50%, is in the Green River RMP area. Approximately one-half of the gas supply volumes shown on Figures 4 and 5, and the potential for future drilling is attributable to the Green River RMP on this basis.

The BLM has attempted to quantify natural gas

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potential by designations of "high", "moderate", and "low" potential for natural gas production in certain areas. These designations are arbitrary as they appear to be based largely on drilling density. The areas of "low" potential are simply the most sparsely drilled. Areas of potential should be based on geology, with the potential assessed on the comparison between sparsely and heavily drilled areas on the basis of source, reservoir, and trapping conditions. This methodology is used extensively by the U. S. Geological Survey, the Potential Gas Committee, and all groups attempting to evaluate gas potential. The methodology is based on published technical material defining geologic plays and statistics of historical exploration results. Very little of the large amount of literature available on these topics is listed in the Green River RMP as references used by the BLM (Page 629 to Page 631). We are attaching a bibliography that may be helpful to the BLM. It is from the Atlas of Major Rocky Mountain Natural Gas Reservoirs (in press), and covers natural gas occurrence and geologic plays in Wyoming and the Green River Basin. This is important data for estimating natural gas potential and natural gas resource values (Attachment 2).

Projection of annual production of natural gas for the Green River Basin, based on data of the National

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Petroleum Council and the demand projections of the California Energy Commission and the Gas Research Institute, are shown on Graph 2. These projections of 1991 through 2010 are applied to the Green River Basin and are shown on Graph 3 along with the historic drilling and production data from 1972 through 1991. The amount of drilling activity required to meet projected production demand is related to the number of actively employed rotary rigs. For the twenty-year period, 1990-2010, an annual average of approximately 60 to 80 operating rigs will be required to meet the projections of the estimators. Historical information shows that each rig can drill and complete six producing wells per year. Sixty rigs drilling six wells per year will add 7,200 producing wells through the year 2010. Assuming that one-half of the Green River Basin wells are drilled in the Green River RMP area, there will then be 3,600 new wells by 2010. Recent work by the National Petroleum Council on gas supply for the U. S. supports these numbers. (The Potential For Natural Gas In The United States, December, 1992.) In comparison, the number of wells projected by the BLM (page 47) is 1,258 as "the most probable future projection of well completions" and 2,385 "maximum well completions". The National Petroleum Council projects drilling activity in the Foreland Basins

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Area, as defined by the NPC (which is essentially the central Rocky Mountain area), to be a low of 12,066 and a high of 22,356 gas well completions to the year 2010. For the Green River Basin part of this area, this is 6,770 to 11,604 new gas wells based on the expected share of total drilling in the Foreland Basins Area. Assigning one-half of the drilling activity to the Green River RMP area, the estimate of new wells based on the National Petroleum Council data is 3,385 to 5,802 gas well completions to the year 2010. Based on two wells per section (320-acre spacing) this involves an area of 1,083,200 to 1,856,640 acres, which would be impossible given the cumulative effect of all the restrictions set out in the Green River RMP. A comparison of these drilling projections and those of the BLM is shown on Figure 6. The drilling activity projected by the BLM is too low.

The assessments of natural gas demand and resource work of the National Petroleum Council (sponsored by the Department of Energy) and the work of others cited herein in the areas of natural gas demand, occurrence, resource assessment, and drilling activity within the Green River RMP area needs to either be incorporated or refuted in the BLM plan.

We have provided a good deal of data (and can

BARLOW & HAUN, INC.
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provide more upon request) which really needs to be incorporated into the RMP. Barlow & Haun, Inc. has done this in an effort to have a reliable data base incorporated into the plan and to help speed the BLM planning process, thereby avoiding lengthy delays in a usable and realistic land use management plan.

2. Economic Benefits of Natural Gas to Local and National Interests

Based on production projections for the entire Green River Basin area (shown on Graph 3) and since the Green River RMP is half the basin area, the natural gas production from the RMP area should increase by approximately 600 Bcf in the year 2010 over the present rate. At \$2 per Mcf, each additional 100 Bcf/year equals \$35 million in revenue to the State of Wyoming in ad valorem and severance tax, and federal and state royalties. This is based on mineral ownership distribution in southwestern Wyoming of 60% federal, 4% state, and 36% private, and on the distribution of ad valorem and severance taxes, and state and federal royalty returns. The \$35 million per 100 Bcf is distributed as follows:

Education (schools and foundation)	15.960 million (45.6%)
Cities, Towns, Counties	5.320 million (15.2%)
General Fund	3.535 million (10.1%)
Highway Fund	3.535 million (10.1%)
Permanent Mineral Trust Fund	2.590 million (7.4%)
Budget Reserve	1.435 million (4.1%)

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Water Development	.945 million (2.7%)
Special Districts	.875 million (2.5%)
Capital Facilities	.805 million (2.3%)

The foregoing economic case assumes a price of \$2 per Mcf. Natural gas prices in Wyoming have strengthened as the Opal Hub has made Wyoming gas more competitive, and wellhead prices in Wyoming have moved closer to the price from other U.S. sources. Traditionally in the past, nationwide prices have been 20% higher than Wyoming. The effect of rising Wyoming wellhead values, and increasing value of gas nationwide needs to be considered in the Green River RMP as it will heighten the interest in developing natural gas supplies. Graph 4 shows that responsible estimating groups project an annual increase of about 3.5% to the price of natural gas to year 2010.

Active drilling rigs also contribute significantly to the local and state economies. Assuming the Green River Basin Resource area will attract 30 of the 60 to 80 rigs required to be active in the Green River Basin, the total annual payroll directly attributable to those rigs will be \$24 million, because each rig results in 20 jobs paying an average salary of \$40,000 per year. Using a multiplier of 2.04 jobs (the result of each new petroleum related job), then the total benefit is 1,224 new jobs in the Green River RMP area. It should be noted that while

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this economic impact is substantial, the social impact is moderate; in the 18-year period of 1975-1992, an average of 57 rigs were active in the gas play area counties of Carbon, Lincoln, Sublette, Sweetwater, and Fremont, and 86 rigs were active in the 10-year period from 1975 to 1984.

Wyoming, in general, and the counties of the southwestern part of the state, in particular, stand to lose significant future income and jobs unless a higher land use planning priority for natural gas is included in the BLM plan.

3. Unjust Taking of Property Problems

Barlow & Haun, Inc. has identified an oil and gas prospect in the area of the Red Creek and Carrant Creek ACECS (Areas of Critical Environmental Concern). Restrictions placed on these ACECS would deny access to the lease holdings. The BLM has issued these leases, but access would be denied under the plan. This deprives Barlow & Haun, Inc. (and others in other prospect areas) of anticipated return on investment and loss of investment capital. In the case of this unjust taking in the Red Creek area, Barlow & Haun, Inc. shall expect to recover from the BLM rental payments, which total \$32,772 as of March, 1993, and shall also expect to receive just compensation for its cost of prospect development, and

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for the actual and potential value of its leases. How will this be handled in the plan and where will the reimbursement money come from?

We appreciate the opportunity to comment on your plan. Our input is offered as constructive planning data, and we hope you will receive it that way. If we can be of any help in providing backup data on the topics discussed herein, or data that will help develop a good, solid plan for the benefit of all, please be in touch.

RD Disk
A:\GRFARMF.Com

BARLOW & HAUN, INC.
GEOLOGISTS

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Attachment 1

COMMENTS MADE BY BARLOW & HAUN, INC.'S REPRESENTATIVE AT THE
BLM PUBLIC HEARING AT WESTERN WYOMING COLLEGE THEATER
7 p.m. - Tuesday, Feb. 16, 1993

My name is Bruce Ladd. I am a petroleum engineer with the firm Barlow & Haun, Inc., Geologists, from Casper.

At present, there are six specific questions we have, or would ask for clarification, as we continue to review the Green River Resource Area's Resource Management Plan and Draft Environmental Impact Statement.

1. Appendix 7-5, titled "Production Figures for Oil and Gas Fields and Units" (pages 737-746) shows correct production figures for December, 1989 and cumulative production for 1989 for the 1,115 producing wells in the listed fields. Table 4-11, titled "Oil and Gas Projected Production from 1989-2010" (page 473) shows annual production for 1989 for 1,712 productive wells (this number is shown on the table as an assumption) and a projection of future annual production to 2010. We would ask for clarification of how Appendix 7-5 data has been used in Table 4-1. It would appear, annual production rates shown for the year of 1989 on Table 4-1 is the actual rate for the month of December, 1989 from Appendix

BARLOW & HAUN, INC.
GEOLOGISTS

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7-5, increased by the ratio of 1,712 wells to 1,115 wells. We also ask for clarification on the rate of production used for future, new well completions. From Appendix 7-5, the actual rate of production of the fields listed is an average of approximately 14 barrels of oil per day and approximately 500 Mcf per day per well, as compared to the projected rate of production used in Table 4-11 for new wells of 1.1 BO per day and 41 Mcf per day per well.

2. Has the BLM applied the projections of supply and demand for natural gas to the Green River Resource Area that have been made by:
 - a. Gas Research Institute's June, 1992: "Insights - The Long Term Trends in U. S. Gas Transportation: 1992 Edition of the GRI Baseline Projection of U. S. Energy Supply and Demand to 2010.
 - b. National Petroleum Council's Natural Gas Study (in press).
 - c. California Energy Commission's December, 1991, "1991 Fuels Report Working Paper; Natural Gas Market Outlook."

These reports show that an increase of 2.7 to 3.0 times in gas production is expected from the Rockies from 1990 to 2010.

3. What are the effects of the recently increased pipeline capacity by construction of the Kern River Pipeline,

BARLOW & HAUN, INC.
GEOLOGISTS

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other proposed new pipeline construction, or expansion of existing facilities on gas production in the Green River Planning Area? Large investments have been made in pipeline infrastructure and gas plants; the projections of future production and drilling should reflect anticipated use of the existing and planned infrastructure.

4. Have changes in natural gas prices and or greater reliance on natural gas in the U. S. energy mix been considered as it affects the amount of drilling in the area?
5. Has the planning considered effects on volume of gas deliverability from future drilling as a result of the improved success rate trends and the impact of advancing completion and production technology?
6. Has the BLM reviewed and incorporated the reserve and resource estimates of the U. S. Geological Survey, Potential Gas Committee, and the Department of Energy as they pertain to the planning area?

In summary, we believe there are two major areas of concern with the plan as it relates to natural gas:

1. There is a large amount of good information published and available that has not been used in the plan, and
2. Past and future volumes of production are incorrectly stated.

BARLOW & HAUN, INC.
GEOLOGISTS

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Page 4

We will provide in writing a copy of these comments we've presented tonight, and perhaps additional written comments by March 4 which we hope will be helpful in planning land use policy, as it relates to oil and gas resources.

a:BLMGRMP.Tlk

BARLOW & HAUN, INC.
GEOLOGISTS

67

April 8, 1993

Mr. Bill LeBarron
Manager, Green River Resource Area
BLM
1993 Dewar Drive
Rock Springs, Wyoming
82901

Dear Mr. LeBarron:

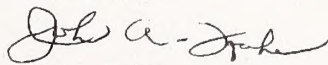
Re: Green Resource Management Plan

1 I am concerned about lack of access for oil firms seeking to explore and/or develop natural gas resources. Your area has been a prime area for tight sands natural gas for years. Unfortunately, for many years the price and market for natural gas has been poor. Substantial drilling took place during 1992 partly due to increased demand and slightly higher prices.

Geologically, your area is more a gas area than an oil area. Natural gas wells constitute a much lower potential for pollution than do oil wells, particularly those in your area that historically produce very little water.

I suggest that your staff not only review lands being considered for withdrawal and/or restrictions, but also see if lands previously classified can now be returned to mineral exploration.

Sincerely yours,


John A. Fraher

67-1 Part of the intent of preparing this RMP EIS was to analyze available information to determine whether present management was adequate and to provide an updated plan for managing and allocating uses of public lands and resources. As a result of this study, some restrictions to oil and gas development have been lifted while other restrictions have been added. We have found that more overall restriction was necessary to protect certain areas and their values.

Comment Responses

68-1 See responses to comments 63-1 and 72-2.

68

Elkhorn Construction, Inc.

P.O. Box 809
Evanston, WY 82931-0809
Phone 307-789-1595
Fax # 307-789-7145



April 12, 1993

Bureau of Land Management
P.O. Box 1869
Rock Springs, WY 82902

Re: Green River Resource Management Plan and Draft
Environmental Impact Statement

Gentlemen:

1 Our success as a company and the success and future of our 200 employees hinges on the natural gas industry and its future in our part of Wyoming. We urge you to reconsider the negative impact that your Green River Management and Impact Statement will have on our future.

We need continued growth in SouthWest Wyoming. Without it, we will loose out on the vast opportunity that the Kern River Pipeline affords us to sell Wyoming Gas to the West Coast.

I cannot understand your agency's apparent (no growth) philosophy for the gas industry and our vast gas reserves. It seems to ignore the reasoning behind Wyoming's active support of Kern Rivers 1 Billion dollar Pipeline project.

Please rewrite the oil and gas sections to allow natural production to increase based on future demands.

Cordially Yours,

Ken Savage
Ken Savage
President



71

R. K. O'CONNELL

801 FIRST INTERSTATE BANK BLDG.

P.O. BOX 2003

CASPER, WYOMING 82502

OFFICE (307) 265-7865
RES. PH. (307) 237-2119

April 14, 1993

Bureau of Land Management
Rock Springs District Office
P.O. Box 1869
Rock Springs, WY 82902

RE: Green River Resource Area
Resource Management Plan

Gentlemen:

I would like to comment on the Green River Resource Plan.

1 It would seem to me that all parties involved in the planning process should put important emphasis on the clear fact that this nation absolutely needs additional natural gas resources developed for the betterment of the environment and the economic well-being of the nation and the state of Wyoming.

Historically, the major supplies of natural gas have been from the Gulf Coast, Mid-Continent, and the San Juan Basin. These areas still supply very large amounts to both the west and east coasts, and the upper mid-west. However, they are mature producing areas, with declining reserves and producing potential.

In contrast, Rocky Mountain Basins, and in particular, the Greater Green River Basin, are relatively young producing areas, with almost assuredly, large undiscovered reserves.

Natural gas resources can be developed in an environmentally sound manner so that these reserves can be made available to the country. It is apparent that the "gas bubble" is no longer with us, and that we have used much gas out of storage reserves this winter. In other words, our production did not meet our needs. This situation is steadily worsening.

It does not make sense to withdraw large amounts of prospective acreage from leasing and development and I strongly urge that Alternative B be reworked to take into account the absolute necessity of developing all possible natural gas resources in the Green River Basin.

Very truly yours,

R. K. O'Connell
R. K. O'Connell

RKO:clh

71-1 Thank you for the information supplied and your recommendation for land use management of the resource area. This advice has been considered along with all other public input provided. The selection of this proposed resource management plan seeks a balance between protection of the environment and production of commodity uses, such as natural gas.

Comment Responses

72-1 See response to comment 63-1.

72

BLACK HILLS BENTONITE,

A Limited Liability Company

Manufacturers of High Grade Wyoming Bentonite



BOX 9 - MILLS WYOMING 82644

TELEPHONE 307-285-3740

FAX 307-235-8511

THOMAS A. THORSON
PRESIDENT & GEN. MANAGER
LARRY MADSEN, CPA
VICE PRES. & CHIEF FINANCIAL OFFICER

April 15, 1993

PATRICIA WILLIAMS
CUSTOMER RELATIONS MANAGER

Bureau of Land Management
Rock Springs District Office
P.O. Box 1869
Rock Springs, Wyoming 82902

RE: Green River Area Resource Management Plan

Dear Sirs:

I have been following the commentary on the draft management plan for the Green River area and how it relates to natural gas drilling and production.

1 The interpretation that I have received is that this plan will roughly allow for the replacement of depleted gas through tightly controlled drilling but does not permit the area to expand significantly to meet expected markets in California and elsewhere.

My interest in this matter falls into three (3) basic categories:

No. 1: My company is a large consumer of natural gas as we use it in conjunction with coal to process bentonite. The price of natural gas is very important as we seek to control our costs and compete in various domestic and foreign markets.

No. 2: As a taxpayer and resident of Wyoming, I believe we need to produce from our strength to survive as a region and natural gas is surely one of our outstanding resources. The further development of gas benefits our State's revenue stream. It provides a stronger employment base for good paying state jobs and it helps solve our nations clean air concerns by using more natural gas.

No. 3: The Federal Government is admittedly seeking revenues from all sources. Many of the areas regarding public land (grazing fees, etcetera) represent small sources of revenue by businesses that have little ability to sustain higher costs. The production and

HARRY T. THORSON

FOUNDERS

ALBERT C. HARDING

72

Bureau of Land Management
Rock Springs District Office
Page 2 of 2
April 15, 1993

sale of natural gas will generate a much larger revenue stream for the Federal Government and will be paid by sectors that are more likely able to pay.

2 Wyoming has made a commitment to help solve the nations energy requirement. The Kern River Pipeline was an excellent beginning to diversify our ability to market our minerals. I hope you will consider these points when you finalize your plans. I expect there may be concerns by Environmental Groups but realistically, most of the Green River Basin area is devoid of any outstanding environmental situations that might possibly be harmed by more gas production. This area already has numerous roads, etcetera; access to hunters, etcetera; and has exposed virtually all of it to some form of man's involvement.

Please consider the viability of the State's economy which desperately needs all of the gas sales possible to replace our fast depleting oil production.

Very truly yours,

BLACK HILLS BENTONITE

Tom A. Thorson
President/General Manager

TAT:jrk

72-2 Thank you for your comment. The BLM is charged with managing public lands for the harmonious and coordinated management of all resources without impairment to the productivity of the land. Over 90% of the public land in the GRR is open to leasing under the Minerals Act of 1922.

Comment Responses

73-1 See responses to comments 63-1 and 73-2.

73-2 We agree that most companies operating in this Resource Area are responsible operators. Our objective, as stated in Table 2-1, is; "To maintain or enhance opportunities for mineral exploration and development while protecting other resource values." Our objective for mineral management must also be balanced with uses of other resources and their protection, as necessary. Over 90 percent of the public lands are open to oil and gas leasing.

As discussed in Chapter 4, past drilling data were used to project a most probable and maximum future projection of drilling activity. Actual activity is expected to fall somewhere in this range (activity levels will remain about the same or increase). Additional restrictions will have some effect on the number of wells drilled but, economics, technology advances, and capacity of the gas transportation network will have a greater effect on the number of wells drilled.

73-3 Additions to the oil and gas portions of this document have been made in response to comment letters received, and when additional information has been supplied that is relevant to analysis of the affected environment, alternatives, or environmental consequences.

74-1 See responses to comments 17-2 and 63-1.

74-2 See response to comment 63-1.

73

April 15, 1993

Bureau of Land Management
Rock Springs District Office
P. O. Box 1869
Rock Springs, WY 82902

Re: Green River Resource Management Plan and Draft Environmental Impact Statement

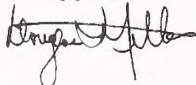
1 This letter is in disagreement with the 'oil and gas' section of the above subject plan. Specifically, the BLM's management plan does not adequately allow natural gas, Wyoming's largest energy resource, to be developed at a rate to assure positive: 1) environmental impacts (eg. alternative to gasoline), 2) economic impacts to the State of Wyoming and 3) market demand impacts via the California marketplace. I request your office rewrite the 'oil and gas' section to allow increases in natural gas production and, thus, recognize Wyoming's vast natural gas reserves and the positive impacts these reserves have if developed in a prudent manner.

In support of the above, let me remind you of the positive economic benefits to Wyoming. The State of Wyoming actively supported the construction of the Kern River pipeline--the pipeline has given our state access to California markets critical to our economic well being. However, your management plan does not adequately support natural gas production in order to fully exploit this marketplace. Your land use plan is a 'no growth' program which ignores the opportunities afforded by the Kern River pipeline and other future projects which have/will bring drilling, construction and other activities to this JOB-starved state. Your plan as drafted, if approved, will unfairly restrict the development of our largest resource, thus, resulting in losses in severance tax revenue and additional tax burdens on Wyoming residents (eg. 14 sales tax increase effective July 1, 1993).

2 Furthermore, the oil and gas production industry in Wyoming has a remarkably responsible 'track' record. Companies such as Amoco, Union Pacific Resources, others have time and time again proven their commitment to the protection of the natural environment. Your plan is irresponsible as it does not recognize/reward these companies' efforts by encouraging more exploration and production activities. Instead, your 'no growth' plan essentially assures only a short term existence for these companies and the Wyoming citizens who work for them.

3 In summary, I encourage you to rewrite the 'oil and gas' section of the above subject plan. You MUST NOT emphasize the protection of the natural environment at the EXPENSE of oil and gas development. One DOES NOT have to be at the expense of the other! I greatly appreciate your support of natural gas production increases in the Green River Basin.

Sincerely yours,



74

ALPHA EXPLORATION, INC.

P. O. BOX 2825
CASPEN, WYOMING
82602

THOMAS F. STROOCK

April 16, 1993

535 WEST YELLOWSTONE
PHONE (307) 234-8828

Mr. William LeBarron
Rock Springs District Office
United States Bureau of Land Management
P. O. Box 1869
Rock Springs, Wyoming 82902

Dear Mr. LeBarron:

1 This letter is written based on 45 years of experience in the oil and gas exploration and development business, nine years experience as a local school board member, 17 years experience as a Wyoming State Senator and four years experience overseas in the diplomatic service dealing with energy matters. It is written to comment on the Green River Resource Management Plan and Draft Environmental Impact Statement.

It is obvious that a great deal of work and effort has gone into this document, which is almost a thousand pages in length. But the effort is seriously flawed because the facts and figures dealing with natural gas production in the area covered by the Green River Resource Plan are not correct. They are, unfortunately for accuracy, far too low. This error skews the whole report. In the Green River Basin Resource Area there are huge natural gas reserves with a production life of more than 100 years, even assuming a double in current production. Natural gas is a clean burning fuel available at reasonable rates, so its use and market will grow and develop.

It is the announced policy of the present federal administration to foster the development of natural gas markets and, therefore, of natural gas resources. In spite of this, the alternatives proposed in the draft statement are far too restrictive. They do not give nearly enough credence to the national necessity of developing the natural gas resources known to exist in the area.

2 Of the alternatives mentioned in the report, alternative "B" is the least restrictive. But even it is too restrictive because the numbers and facts used are in error. The report assumes the completion of 1,258 gas wells over the next 20 years. Based on my own practical experiences and on the published testimony of such respected national gas experts as the National Petroleum Council, the California Energy Commission, the United States Geological Survey and the Energy Information Administration, this figure is two and a half times too low. Instead of only 1,258 gas wells to be drilled over the next 20-year period, the more correct projections made by knowledgeable people and organizations indicate that 3,200 gas wells will be drilled over the next 20-year period. All by itself, this change makes one whale of a big difference!

74

Mr. William LeBarron
Page 2

April 16, 1993

The economy of Wyoming largely depends on the proper development of the natural gas resource in the Green River Basin. The economy of California also largely depends on the development of this same resource, since the California markets will be the purchasers and users of the fuel. The revised 250% increase in numbers covered by the report over the 20-year period will demonstrate that over \$11 Billion dollars of additional state and local government tax revenues will be collected. From the federal point of view this is enormously important: it will mean that there will be \$11 Billion dollars that the federal government will not have to subsidize to Wyoming and its communities in the future.

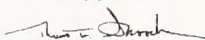
In California the correct figures will show that the markets there will not have to turn to foreign (i.e. Canadian) gas resources at the expense of our United States reserves. The Californian economy, therefore, will not be subject to future Canadian foreign policy restraints. This will mean cheaper gas for California consumers. Proper action in developing Green River natural gas reserves will avoid a many billion dollar increase in energy costs to the presently suffering California economy.

For all these reasons, it is respectfully requested that you rewrite the draft of the Environmental Impact Statement to correct the facts and figures on natural gas - its development and markets. These natural gas reserves can be developed - and developed without harm to the surface environment which is the apparent concern of most of the statement.

3 If someone were to search the entire surface of the United States to determine where a major gas reserve could be placed so that it could be developed with a minimum disturbance to the beauties of our continent and nation, most reasonable people would probably pick the high, dry, treeless plains of the Green River Basin where distant views are common but where there are few other uses of the land beyond wildlife preservation, stock grazing and the possible development of alternative mineral resources.

It is, of course, important to future generations to preserve the ecology of the high plains in the Green River Basin, but that part of the world is never going to become an area in which tourism and recreational use will be vital to large numbers of people. On the other hand, it is already a vital area of natural resource development, affecting energy costs for literally millions of Americans. It will become even more important in the future. In my opinion, the Draft Environmental Impact Statement simply must be revised to reflect these practical realities.

Sincerely yours,



Thomas F. Stroock

CC: Governor Mike Sullivan
Senator Alan Simpson
Representative Craig Thomas

4/15/93

75

Susan Guio

BLM
Rock Springs District Office
P.O. Box 1869
Rock Springs, WY 82902

RE: Green River Resource Management Plan and Draft Environmental Impact Statement

To whom it may concern,

1 As a life long resident of Wyoming, I have concern over the restrictions placed on the natural gas production in the Green River through the Green River Management Plan.

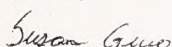
Natural gas is a valuable resource to Wyoming and the Nation. It is a clean fuel that many states are pushing industry and other consumers to use because of its low pollution. The Kerns's River pipeline was constructed for the purpose of increased market of natural gas. Without access to the potential reserves in the Green River Basin, the Pipeline will be for naught.

It is irresponsible of the BLM to promote a no growth program for natural gas. This limit of no growth is at a time when the natural gas has been on hold for market reasons, puts the level at risk of being lower than normal.

Not to allow for growth in the natural gas market will have a negative impact on the social-economic status of many communities. The social-economics of an area need to be assessed. People and communities are also a resource.

2 I strongly urge you to coordinate with the affected communities and gas producers to see what needs are present and what projections are possible for responsible planning in the future.

Sincerely,



Comment Responses

74-3 Thank you for your comment.

75-1 Thank you for your comment. The RMP was developed with the understanding that the Green River Basin is a major gas field in the United States. The RMP is not a no growth program for oil and gas production, in fact, 90% of the GRRA public lands will be open for leasing of oil and gas resources. The RMP does look at different levels of development. The production alternative looks at a level that exceeds what many experts anticipate. The environmental consequences of this alternative was analyzed, to determine what we might expect if market conditions and the development of the mineral resources allowed that level of development. The document did analyze the social economics of the area and the relationship to oil and gas, although it was revised in the final due to public comment.

75-2 The BLM has had meetings and reviewed written comments since the draft document was released. Before the final is released we have agreed to sit down with interested parties to discuss the changes.

76

THE BANK OF LARAMIE

MEMBER FDIC AND FEDERAL RESERVE ▲ FAX: (307) 721-2036
2835 GRAND AVENUE ▲ P.O. BOX 1027 ▲ LARAMIE, WYOMING 82070-1027 ▲ PHONE: (307) 745-3619

April 15, 1993

Bureau of Land Management
Rock Springs District Office
P.O. Box 1869
Rock Springs, WY 82902

Dear Gentlemen/Madam,

I am concerned about the Green River Area Resource Management Plan in that the plan fails to recognize Wyoming's vast natural gas reserves and it does not encourage increased natural gas production.

1 As a banker, I am well aware of the capital shortcomings of the state of Wyoming and the impact a few new jobs make on our economy. A 60-80 rig level would have an enormous effect. On the other hand, no new growth conditions and assumptions, as imposed by the BLM plan, would result in a tremendous loss. Schools would lose \$235 million in new income per year. Highway and the General Fund, some \$53 million each per year and new property tax revenues lost for local governments would amount to \$40 million per year in Sweetwater, Uinta, Lincoln, Sublette, and Fremont Counties.

2 I urge you to rethink and rewrite the oil and gas sections of the BLM plan, to allow natural gas productions to increase, based on natural gas forecasts and projected demand.

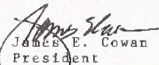
A production increase of 250%, phased in over a 20 year period would have an enormous effect. It could result in \$11.2 billion in new state and local government tax revenues.

In closing, I would again like to point out that the BLM plan is a no growth program that ignores the reasoning behind Wyoming's active support of the \$1 billion Kern River Pipe Line project.

76

I appreciate the opportunity to express my feelings on this very important phase of Wyoming's future, and look forward to seeing your revised plan.

Sincerely,


James E. Cowan
President

Copies:

Senator Simpson
Senator Wallop
State Representative Devin

Comment Responses

76-1 Thank you for your comment. We do not feel that RMP is "imposing no new growth conditions" with associated loss in revenues. The natural gas and trona industries in southwest Wyoming have expanded during the period of this study (1988-1994) and are continuing to expand with the associated increase of revenues to the counties and communities in the Resource Area. Also see response to comment 28-8.

76-2 See response to comment 63-1.

77

BLACK HILLS POWER AND LIGHT COMPANY

P.O. BOX 128
GILLETTE, WYOMING 82717-0128TELEPHONE
(307) 682-2523RICHARD W. BRATTON
WYOMING AREA MANAGER

April 16, 1993

Mr. Bill LeBarron
Bureau of Land Management
Rock Springs District Office
P. O. Box 1869
Rock Springs, WY 82902

Dear Mr. LeBarron:

I'm writing in concern to the limiting of natural gas production within your district in Southwest Wyoming.

- 1 I serve on three boards of economic development nature that continue to try and find ways to develop, produce and technologically enhance upon our natural resources here in the State of Wyoming. The threat of limiting the competitive production of those natural resources bodes badly for the State of Wyoming and the Federal Government, since both prosper from the royalty systems in place.

As long as the environmental issues are addressed and there is a market driven need for the natural gas production, then we should encourage such production, not limit it. If this state and nation is to compete on a world wide basis, then we need to produce those resources that can do just that. It is hard enough to find the investors and bring that money into Wyoming for expanding on our natural resources. Limitation of production within the Bureau of Land Management's areas of concerns is just another stumbling block to keeping Wyoming's economy viable for the future. With the decline in coal and oil prices, natural gas comes forth as another resource that can help us cover the losses in jobs, profits and tax revenues that have come about from down sizing and cutbacks in the aforementioned energy arenas of coal and oil.

Therefore, I'm hopeful that the BLM will allow more natural gas production to occur. We need to recognize that these vast reserves can do nothing but provide positive economic growth and stability to our present energy resource bases.

Everyone will suffer if the natural gas production is limited by more legal restrictions on top of what competitive restrictions already place on the free enterprise side of the issue.

I would hope that natural gas production and utilization could not only be shipped out of state, profitably, to markets, but we could also utilize vast amounts of it here in the State of Wyoming in producing products that can be marketed world wide. There are already some proposals here in Wyoming to create such products, and we could then keep more of the value of the resource within the state.

Comment Responses

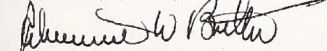
- 77-1 This RMP does not restrict development of natural gas; rather it provides the documentation and environmental review necessary to allow for orderly development of mineral resources on public lands. In fact, 90% of the public lands covered in this document will be open for oil and gas leasing. We are aware that there are increased costs of operations on public lands because we have been given authority by Congress to manage public lands for multiple use. In managing for multiple use, the goal is to use resources without permanent impairment of the productivity of the land and the quality of the environment with consideration being given to the relative values of the resources and not necessarily to the uses that give the most economic benefit. The intent of this plan is to balance these uses and provide for the orderly development of these natural resources.

77

Page 2, 1993

You need to keep your Bureau of Land Management programs progressive, not static, nor regressive. Development of the natural resources under your jurisdiction is most necessary if real effort to reduce federal deficits are to be realistic. Job creation in the private sector creates real economy, and it is those potentials that come along when we explore for or produce these natural resources, whether they be on private, state or federal leases. That's good for the economic well being of all concerned, and that should be the strategic plan for our federal lands and minerals assets.

Very truly yours,


Richard W. Bratton, Manager
Wyoming Area

Chairman, Wyoming Science, Technology and Energy Authority
Committee for Development of EPSCoR ADP Program, U of WY
Campbell County Economic Development Corporation

cc: Victor Wells, Exec. Dir. STEA
Derek Hodgson, Chairman, EPSCoR ADP
Earl Mathers, Exec. Dir. CCEDC

82

From Wm. R. Taliaferro

April 18, 1993

To: Renee Dana
BLM Team Leader
Rock Springs District
Box 1869
Rock Springs, Wy 82902

Comments in regards to the Resource Management Plan (EIS),
Green River Resource Area, Rock Springs Wyoming.:

This RMP is so large and complicated it is almost impossible
to read or (carry for that matter) and should be condensed
to about one eighth the size.

The plan also states on page 5, paragraph one, volume 1 that
"Each alternative also considers the land use plans of local
and state governments and other federal agencies in and
around the Green River Resource Area to assure that the
approved RMP will be compatible with them."

1 In regards to the above the writers must have failed to
read the Sweetwater County Land Use Plan or they couldn't
have missed the fact that the county plan is terribly out of
date and isn't even relevant to 1993. I would suggest the
BLM hold their plan until the new committee being formed by
the county to ~~study~~ and comment on land use plans is formed
and can be of service to the Bureau in determining what the
citizens of the county want.

2 I'm appalled that the private land owners or at least
the large private land owners weren't asked to take a part
in writing the RMP since any decision effecting federal
lands will likely affect the adjacent private lands as well.
Some of these affects could violate the 5th Amendment of the
Constitution and may be in fact a federal takings.

3 On page nine the BLM has a paragraph titled Issue 3: where
consumptive and non-consumptive uses are identified. Since
when is wildlife a non-consumptive use (I assume it isn't
since it wasn't listed.) And who decided that minerals,
livestock, jobs, tax base, roads for access and
transportation are not a part of resource values of the
area.

4 The document, if really necessary, needs a complete rewrite.
The data for minerals is wrong, the proper consultation
wasn't done, it doesn't protect the jobs, economy or tax
base of the area, it couldn't be implemented in a thousand
years since not industry, the county nor the federal

Comment Responses

82-1 This plan was coordinated with the existing county plan.
Thank you for your comments. We are also cooperating on the
development of the new county plan.

82-2 All major landowners, grazing permittees, mineral industry,
environmental groups, and private citizens have been invited
to participate in this plan since the scoping process started.
The plan only covers public lands, but the impact section of the
Final EIS includes impacts to private landowners.

82-3 In the planning system, the resource values that were ad-
dressed in the plan come from FLPMA and we agree that
minerals and livestock are part of the resource values, and are
addressed in the RMP. The other items that you mentioned are
part of the social economic portion of the analysis in the plan.
These items were not overlooked. In regards to wildlife, it
should be noted that they are part of the natural environment
and are addressed as such.

82-4 Thank you for your comment. See response to comment 75-1.

82

government has the money, manpower, or time to pocket the
smoke generated by this RMP. I would suggest BLM personnel
look at the present economic figures facing the United
States and develop something that will generate profits and
jobs within private enterprise, fair revenues for
governments and hopefully promulgate the existing life style
we enjoy in the area. THIS DOCUMENT THREATENS THE REDUCTION
OR DESTRUCTION OF ALL OF THE ABOVE. This again is another
typical conflict generating document and not a outline for
solving problems.

Thank you.

Wm. R. Taliaferro

W. R. Taliaferro

83

Harold Josendal

April 19, 1993

Mr. Bill LeBarron
Bureau of Land Management
P.O. Box 1869
Rock Springs, WY 82902

Dear Mr. LeBarron:

I am writing to comment on the Green River Resource Plan of the B.L.M.

- 1 My only interest is as a senior citizen. I am looking for an improved Wyoming economy. The potential for increased employment and tax revenue is present.

Alternative B of the plan needs to be amended to permit a 250% increase in projected natural gas production over the next 20 years. This increase is consistent with the judgement of competent geologists in the private sector as well as state and federal agencies.

This revised plan must of course include necessary well locations, roads, gathering pipelines and processing facilities.

- 2 Other multiple uses can continue. The antelope herd that has built up over the last 60 years will continue. They and other wildlife are very adaptable. They quickly adjust to change and soon recognize drilling rigs and trucks as curiosities and learn to live among them. The same can be said for permitted grazing animals. Only during hunting season are they afraid. This is a small part of the year.

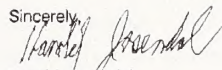
The actual surface land space occupied by the whole gas production is small compared to the total.

- 3 Another point worthy of mention is that the average urban tourist travelling through is fascinated by the sight of a major producing oil and gas field. It is an attraction.

I anticipate that your plan will recognize the needs and possibilities for Wyoming people.

Thank you for this opportunity to comment.

Sincerely,



Harold Josendal

Comment Responses

83-1 See response to comment 63-1.

83-2 Thank you for your comment.

83-3 Thank you for your comment.

84

NORTHWEST PIPELINE CORPORATION
ONE OF THE WILLIAMS COMPANIES

P.O. BOX 58900
SALT LAKE CITY, UTAH 84158-0900
801-583-8800
FAX: (801) 584-6483

March 1, 1993

Bureau of Land Management
Renee Dana, Team Leader
P.O. Box 1869
Rock Springs, Wyoming 82902

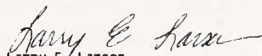
Dear Ms. Dana,

The document attached contains comments on the alternatives presented and the adequacy of the impact analysis of the "Green River Resource Area Resource Management Plan and Draft Environmental Impact Statement."

The document has been prepared by the Williams Western Group of companies, including Northwest Pipeline Corporation, Kern River Gas Transmission Company and Williams Field Services Company. Williams Western Group has significant interest in the Green River Resource Area and any proposals impacting the management of public lands. Further Williams Western appreciates the Bureau of Land Management's commitment to give consideration to the issues and concerns raised through these comments.

Williams Western appreciates the opportunity the BLM has given our companies and the public to participate and provide input into the DEIS/RMP review process.

Sincerely,



Larry E. Larsen
Director
Business Development

84

WRITTEN COMMENTS OF
WILLIAMS WESTERN GROUP OF COMPANIES
TO THE BUREAU OF LAND MANAGEMENT
GREEN RIVER RESOURCE AREA
RESOURCE MANAGEMENT PLAN AND
DRAFT ENVIRONMENTAL IMPACT STATEMENT

Summary of Comments:

Williams Western Group of companies (Williams Western), including Northwest Pipeline Corporation (Northwest), Kern River Gas Transmission Company (Kern River) and Williams Field Services Company (WFS), is jointly submitting comments in the Bureau of Land Management's (BLM) Green River Resource Area Resource Management Plan (RMP) and Draft Environmental Impact Statement (DEIS). Williams Western has significant interest in the natural gas resources in the Green River Resource Area.

1 The BLM has invited comment on the alternatives presented and the adequacy of the impact analysis. Williams Western has concluded that the alternatives are deficient and the impact analysis flawed due to the exclusion of any data from an essential and reasonable case which assumes encouraging development of oil and gas leases under federal statutory allowances. The BLM study has assumed that increased restrictions on oil and gas development are needed without supporting this conclusion with definitive reasons.

2 The RMP does conclude that land restrictions in all the alternatives can increase costs of development or preclude certain business activities; these are adverse impacts of real consequences. Williams Western believes that developing Wyoming energy resources is crucial to the future of the U.S. economy. The market for natural gas has significantly changed, even since 1990; Kern River and Northwest have, or will soon place, major facilities in service, and competing

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Comment Responses

84-1 See response to comment 27-8.

84-2 Some additional discussion of impacts to oil and gas development will be added to chapter 4.

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transmission firms have capacity additions planned to serve the West and Midwest. Consumers and marketers have access to supply and transportation information and react to select the most economical energy alternatives accessible. Increasing the costs to produce Wyoming gas volumes means either the market price goes up, or the producer must lower his margins to meet market clearing levels. Presently, there are ample gas supplies located in the West, Southwest and Canada, and transmission systems with flexibility to serve demand from a range of resources. Market outlets for Wyoming gas may be lost altogether or substantial volumes may be displaced, based on increased commodity prices. Future development in Wyoming may be negatively impacted. Producers will develop energy resources where returns are favorable; other things being equal, producers with options for energy exploration and development will pursue projects in areas not burdened by unnecessary expense, and investment capital will be redirected away from the state. Wyoming residents derive significant benefits through tax revenues from energy development, royalty incomes, or employment opportunities; the public is not served by adding unnecessary restrictions which could price the commodity out of the market.

3 Williams Western does not support any of the alternatives of the RMP as presently written. Based upon a performance record for balancing Wyoming energy development with other resource uses and values, Williams Western would recommend that the BLM determine site-specific mitigation practices for oil and gas projects unless, or until, data is developed to show that these measures are insufficient to protect other resource values or uses.

Detail of the Williams Western Group comments:

The balance of this document contains comments on the RMP and DEIS for the

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84-3 This is standard operating procedure.

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Green River Resource Area, encompassing some 3.5 million acres of federal lands. The comments are made jointly by Williams Western which includes Northwest, Kern River, and WFS. These companies have an interest in the impact of the proposed Plan, as will be more fully explained below.

Williams Western Group:

The Williams Western Group of companies has significant business interests in Wyoming. The affiliate companies perform services as part of the natural gas industry:

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Northwest Pipeline Corporation (Northwest) owns and operates an interstate natural gas transmission system extending nearly 1,500 miles from points of interconnection with El Paso Natural Gas Company near Ignacio, Colorado and Blanco, New Mexico through New Mexico, Colorado, Utah, Wyoming, Idaho, Oregon and Washington, to the Canadian border near Sumas, Washington where it interconnects with the facilities of Westcoast Energy, Inc. The bulk of Northwest's existing transmission service is transportation on behalf of historic on-system markets in the Pacific Northwest; gas transported on Northwest's system is sold for resale in Washington, Oregon, Idaho, Utah, Wyoming and Colorado. Northwest also owns natural gas storage facilities in Washington, as well as an LNG facility in Benton County, Washington.

Northwest has been transporting natural gas supplies from southwestern Wyoming for nearly four decades; Northwest has 210 miles of large diameter pipeline in Wyoming with a value of over \$68.7 million. The Wyoming supply has been, and continues to be, an integral part of the total natural gas supplies available to serve Northwest's market. Currently, Northwest is completing a \$400 million expansion of its transmission system, which is scheduled to be in service

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Comment Responses

84-4 Thank you for this information. Some of this data will be placed in the RMP as part of the Resource Area Description and some will be placed in chapter 3 of this EIS.

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4 by April 1, 1993. As part of the expansion, approximately \$12 million of the projected costs will be invested to construct new facilities in Wyoming enabling the system to transport an incremental 140 million cubic feet of natural gas per day from the Wyoming supply area. Additionally, Northwest will file a request for approval with the Federal Energy Regulatory Commission (FERC) for a second expansion of its system, adding approximately \$308 million of new transmission facilities. The second expansion is planned for service by November, 1995, and will provide market outlets for an additional 30 million cubic feet per day of Wyoming produced gas supplies.

Cont'd

Kern River Gas Transmission Company (Kern River) is a joint venture of the Williams Companies and Tenneco, Inc.; the venture was formed to design and construct a 904-mile natural gas transmission pipeline from the Overthrust area of southwestern Wyoming through the states of Utah and Nevada to the heavy oil producing areas in southern California. The 36" diameter pipeline was placed in service in February, 1992, at a cost of over \$1 billion; the system transportation capacity is 700 million cubic feet of natural gas per day. Kern River has opened up new and growing markets for gas in Utah, Nevada and California, to serve electric utilities, local distribution companies and direct industrial end users. This project has resulted in increased demand and development of gas production, gathering, and processing facilities for many firms in southwest Wyoming. The initial design allowed for the capacity of the transmission system to be economically expanded to 1.4 billion cubic feet per day; Kern River has applications currently pending before FERC and the BLM to expand its capacity by 452 million cubic feet of gas per day.

Kern River's system originates in Muddy Creek, Wyoming and includes 85 miles of pipeline traversing southwestern Wyoming and three compressor stations.

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84-4 See response to comment 84-4-1.

84-4 See response to comment 84-4-1.

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4 representing over \$120 million dollars. Kern River has also established a permanent operations and maintenance base in Evanston, Wyoming. During 1993, it is expected that about 90% of the system's 700 million cubic feet per day pipeline capacity will be Wyoming-sourced supplies. The level of construction and investment in the Kern River pipeline illustrates that the state's supply area is of critical importance to the long term viability and support of domestic energy needs for the western United States. The expected service life of the pipeline is approximately seventy-five years, therefore Kern River is vitally interested in the public land and minerals management policies in Wyoming.

Williams Field Services Company (WFS) owns and operates natural gas gathering systems, processing facilities and treating facilities. Currently WFS gathers and processes or treats over 1.6 billion cubic feet of natural gas per day. WFS operates 44 gathering systems acquired by Williams Gas Processing Company from Northwest in 1992, in the states of New Mexico, Colorado, Utah and Wyoming, including 4 processing plants having a combined capacity of 990 million cubic feet per day. These systems include 94,000 horsepower of field compression and nearly 3,800 miles of gathering pipeline connecting over 5,300 natural gas wells. WFS also owns and operates the Manzanares Coal Seam System in the state of New Mexico, to gather and treat coal seam methane. Manzanares connects to the Milagro treating plant near Bloomfield, New Mexico, and the system currently has capacity for 610 million cubic feet per day, and is being expanded to over 750 million cubic feet per day during 1993.

In Wyoming, WFS operates nearly 1,100 miles of pipeline as well as a world-class cryogenic processing facility with capacity of 575 million cubic feet of gas per day, representing an investment of over \$236 million. WFS has also established a significant supply hub near Opal, Wyoming, with transmission access

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currently to Northwest, Kern River, and Colorado Interstate Gas; other transmission firms have expressed considerable interest in connecting into the Opal hub. WFS systems gather gas from about 1,400 currently producing Wyoming gas wells in Sublette, Sweetwater, Lincoln, Carbon, Uinta, Park, Fremont and Washakie counties; the bulk of the well connections are in Sublette, Sweetwater and Lincoln counties. WFS also believes that significant potential exists in these areas for additional exploratory and developmental drilling to be undertaken, to provide long-term gas supplies from Wyoming to western states' markets.

5 Williams Western Group is vitally interested in the impacts of the proposed RMP:

Williams Western has significant investment in facilities in Wyoming; the interests of the companies represent long-term commitment to provide natural gas service from Wyoming for western markets. Additionally, the companies' Wyoming payroll totals 125 people, representing direct income from operations for Northwest, Kern River and Williams Field Services. Williams Western is committed to providing an economic outlet for Wyoming natural gas production through services and access to transmission outlets. Williams Western supports the continued growth and development of all segments of the natural gas industry in Wyoming. The area is vital to the energy interests of the United States. Williams Western believes that such an objective is consistent with the current energy policies and plans of state and federal administrations, targeting incentives to improve Gross Domestic Product and lower trade deficits.

6 Williams Western believes that there are several benefits to encouraging and maintaining a vital domestic oil and gas industry. Revenues from taxes assessed on the investment base are returned to states; severance and royalty

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84-5 Thank you for the additional information provided and for your recommendation on an energy objective. This advice has been considered along with all other public input provided.

84-6 An additional discussion of these positive impacts will be included in chapter 4.

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payments are paid to landowners, state and federal interest owners; and to the extent continued development of leases and properties occurs, direct and indirect employment opportunities are provided through oil and gas activities. Such revenues have benefitted Wyoming residents over several decades, and will continue to do so, provided that domestic energy production remains an active and viable enterprise in the United States.

7

In each Alternative presented in the RMP, the BLM has indicated that the affect of its increased acreage restrictions for the oil and gas industry would "increase the costs of doing business and possibly preclude some activities". The oil and gas industry has become highly competitive, due to improved delivery capacity and enhanced market intelligence and responses. Local distribution companies, municipalities, and industrial users have the capability to select and purchase natural gas supplies from many sources, including producing basins throughout the West, Southwest and Canada. Increasing the cost of developing Wyoming gas results in lowering revenue to producers, whenever a producer might supply gas at prevailing market rates. When market forces reduce the return to producers, future drilling and developmental decisions are adversely impacted. Similarly, pipeline and processing facility investment can be deferred or abandoned. Williams Western believes that Wyoming energy resources are an integral part of the nation's long range economic future, and is opposed to actions which would unnecessarily raise the price of Wyoming natural gas supplies and competitively disadvantage this resource. It is not in the best interest of the Williams Western Group because of present and future opportunities for projects in Wyoming, nor is it in the interest of Wyoming citizens who derive significant economic benefit from the production of oil and gas resources.

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Review of the proposed RMP and DEIS:

Williams Western, as previously stated, has been an active participant in the development of energy resources in southwest Wyoming for nearly four decades, during which time, the companies have enjoyed a close working relationship with the BLM. Through these years, we have established a record of performance which has balanced economic energy development with protection of other resource uses and values; Williams Western strongly believes that this overall record has demonstrated that energy development has been and can be done in a manner compatible with ranching interests, wildlife and cultural resource protection and other uses.

8

Williams Western has reviewed the documents prepared for the Green River Resource Area RMP/DEIS; the BLM has done an acceptable job of preparing the draft document, as far as their analysis has gone. The alternatives provided represent a selected range of scenarios. A serious omission occurred when one alternative was excluded from consideration, which requires a study analyzing oil and gas leasing on the Green River Resource Area (except statutorily closed areas) using standard terms and conditions included on the federal lease form. Basically, the four alternatives included in the RMP/DEIS all assume that a high level of restriction on oil and gas activities is needed. This assumption is offered in varying degrees as a foregone conclusion. Williams Western takes exception to this hypothesis.

9

The assumption that oil and gas activities require increasing restrictions is not supported by any data or studies contained in the present document. It is impossible to conclude from the information provided that less restrictive measures are insufficient to protect the resources identified in the RMP. Conflicting resource values and uses alone do not necessarily justify increased

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Comment Responses

84-7 See response to comment 84-2.

84-8 See response to comment 27-8.

84-9 See responses to comments 27-1, 27-14, and 30-1.

Comment Responses

84-10 See responses to comments 27-17, 27-18, 28-25, and 42-4.

84-11 Thank you for your comment.

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restrictions. An examination of the scope of alternatives would seem deficient without a study of the impacts of less restrictive measures, along with specific requirements for protecting resources to be safeguarded.

10 Additionally, six new areas are included in Areas of Critical Environmental Concern (ACEC); the RMP proposes to close these areas to surface disturbing activities or close them to leasing for energy development. Many of these areas have significant potential for oil and gas exploration and production. Such restrictions may not appear to prevent development of subsurface structures, but, by barring rights-of-way and prescribing drilling techniques to producers, the majority of ACEC areas are effectively restricted by economics. Williams Western believes that the proposed prohibition of activities for new leases is not desirable and moreover, not supported by the DEIS. The BLM study has not documented the need to reclassify the area as ACECs, nor shown why oil and gas activities are incompatible with other uses. For example, in the Steamboat Mountain area the stated purpose for designation as an ACEC is to provide suitable habitat for the Steamboat Mountain elk herd. This restrictive definition is not necessary to assure the survival of the herd; many other herds in Wyoming are managed without the added protection of ACEC designation of their ranges. In this area, there are admittedly 60 existing leases, and BLM proposes to defer further leasing until a "site-specific" plan can be completed. In the face of obvious industry interest in the resources of the western portion of this area, the exclusion of this area from the RMP constitutes continuing unnecessary delay.

11 The impact of seasonal restrictions, particularly of the magnitude proposed in the BLM's Preferred Alternative (for 1,668,440 acres) would unduly restrict and impact energy development activities. While companies customarily do not

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plan their developmental activities for the winter months (when most of the seasonal restrictions would apply) Williams Western's experiences of the last thirty-five years suggest that significant scheduling uncertainties occur which affect development plans, not the least of which are obtaining all necessary regulatory approvals. Winter construction activities have been successfully performed in the past, and we understand that normal construction techniques must be modified to accommodate resource protection objectives. Despite the challenges associated with such construction, Williams Western feels that the opportunity should not be foreclosed or unrealistically burdened by unsupported justification or by the planning process. In any season of the year, there is no question that construction related to energy development projects can cause short term impacts. Williams Western has been and is committed to its restoration programs and to returning the land to a level of productivity equal to or greater than that which existed prior to surface disturbing activities. These practices have been developed rationally over the time energy activities have been pursued in the western states. We believe that development of energy resources is a full-time and not a part-time vocation, and despite our concerted best efforts to schedule activities during less sensitive periods of the year, certain activities will inevitably require access for construction, operation and maintenance the year round.

12 Further, Surface Disturbance Mitigation Guidelines contained in Appendix 2 contain restrictions that suggest regressive land management policies which will result in needless frustration for developing energy resources. Exclusion areas include 1) slopes in excess of 25%; 2) areas within 500 feet of water; 3) areas within 1/4 mile of historic trails and 4) wet weather shutdowns. These exclusions are overly restrictive and unnecessary since there are well

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84-12 Thank you for your comment. These mitigation guidelines are not exclusions. They are accepted mitigation for all surface disturbing activities and must be addressed for operations until such time as mitigation techniques are identified through site specific analysis. Site specific actions cannot be identified in this EIS and are thus analyzed at the appropriate site specific application phase. Guidance for application of exception, modification, or waiver are provided and are applied as appropriate analysis indicates. Please note the guidance sections in Appendix 2, page 638 of the DEIS, which explains that permittees can at the appropriate time identify other applicable mitigation.

Yes, this could affect routing of linear facilities. Although more acres may be affected, the effects of that disturbance may be minimal. Sensitive resources would be avoided and mitigation costs, in some cases, reduced.

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established and proven mitigation techniques which address each of the situations, as well as facilities existing today within areas such as those proposed for exclusion. The proposed exclusions impact linear facilities, such as pipelines, by potentially requiring more circuitous routing to be adopted to avoid a hill, a trail or intermittent drainage, and which may cause increased surface disturbance.

13

Wildlife Mitigation Guidelines contained in the RMP are also overly restrictive. Historically, large herds of deer, elk and antelope have browsed in close proximity to energy developments, unimpressed with the developmental activity, and without jeopardy to their populations. Restricting activity or surface use for over five months of each year, and potentially for over eight months where big game crucial winter ranges encompass raptor nesting sites, is an unwarranted burden not supported by the DEIS; more appropriate action may be developing mitigation measures on a case-by-case basis for critical habitat areas.

14

Appendix 5-1 of Volume 3 of 3 describes "best management practices" applicable to Alternatives B, C and the Preferred Alternative. These practices emphasize soil and watershed management as well as reclamation objectives. In Williams Western's experience, parties often differ on which methods of reclamation and erosion control are most effective. Current BLM policy recognizes that there may not be one "right" answer, and that a variety of methods may be appropriate as adapted to varying circumstances. Recognizing these intrinsic differences, BLM has allowed right-of-way applicants to use their expertise to recommend and implement construction and reclamation programs. These allowances still hold applicants responsible for final reclamation standards of performance, but do not direct particular interim methodologies

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during the construction phase. Williams Western has participated in such arrangements and would recommend that the BLM continue to use the final reclamation standard as the appropriate measure of compliance.

Recommendations for the RMP:

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Williams Western has concluded that the document presented is deficient in its analysis of one key area, which is the determination of the impacts of oil and gas leasing under conditions and terms acceptable under federal lease forms. In each scenario, indication of a conflict of values or uses results in the BLM concluding that additional restrictions are required of the oil and gas industry. Yet no analysis of less restrictive measures has been presented to indicate that such measures do not sufficiently protect and safeguard the resources discussed in the RMP.

Of the alternatives presented, Alternative B contains some elements which, when compared to the other alternatives offered, are more desirable in managing oil and gas resources for the public interest. However, Alternative B still includes many inconsistencies and unsupported recommendations.

16

For the reasons outlined, (as well as comments made during the public hearing process, such as the changes to the RMP/DEIS recommended by the Petroleum Association of Wyoming) Williams Western must conclude that the present RMP/DEIS is deficient in its analysis and as a result, does not offer a clearly beneficial management plan. Based upon longtime operating experiences in Wyoming, as well as a proven record of performance balancing energy development and other resource uses and values, Williams Western would recommend that the BLM continue the practice of recommending or approving site-specific mitigation practices for oil and gas development projects unless, or until, data is developed to show that

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Comment Responses

84-13 Deer and antelope can, in many cases, habituate to oil and gas activities. Elk are definitely impacted and displaced. Most stipulations (raptors and winter range) are assigned on a case-by-case basis. Usually the winter range stipulations are only enforced for two to three months and raptor stipulations may be waived unless the activity is in direct line of sight of the nest. General planning on the part of the oil and gas company, pipeline company, or seismograph crew is sufficient to reduce impacts or mitigation requirements.

84-14 Thank you for your comment. Comments reflecting this concept have been incorporated into the text.

84-15 Alternative B addresses the production alternative.

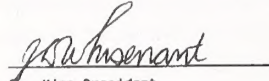
84-16 Thank you for your comment.

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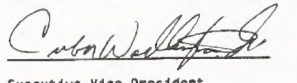
these measures are insufficient to adequately protect other resource values or uses.

The continued economic development of natural gas resources is vital to both the public interest and to the interest of the Williams Western group. We believe that the highest and best use of a large portion of the Green River Resource Area is developing the energy and mineral resources. Accordingly, economic development of the region should be promoted rather than discouraged through the largely unfounded restrictions contained in the proposed RMP.

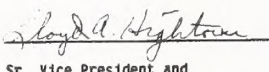
These comments are presented jointly by the Williams Western Group of companies:


Sr. Vice President
General Manager
Northwest Pipeline Corporation

NORTHWEST PIPELINE CORPORATION
ONE OF THE WILLIAMS COMPANIES


Executive Vice President
Kern River Gas Transmission Company

Kern River
A GAS TRANSMISSION COMPANY


Sr. Vice President and
General Manager
Williams Field Services Company

WILLIAMS FIELD SERVICES COMPANY
ONE OF THE WILLIAMS COMPANIES

13

85



QUESTAR PIPELINE COMPANY

79 SOUTH STATE STREET • P. O. BOX 11450 • SALT LAKE CITY, UTAH 84147 • PHONE (801) 530-2400

David C. Fleim, Jr., Coordinator
Environmental Affairs

February 24, 1993

Ms. Renée Dana, Team Leader
Bureau of Land Management
Rock Springs District
P.O. Box 1869
Rock Springs, WY 82902

Re: Green River Resource Area Resource Management
Plan and Draft Environmental Impact Statement

Dear Ms. Dana:

Questar Pipeline Company (Questar) is engaged in the gathering, storage and transportation of natural gas through its pipeline systems located within areas included under the Green River Resource Area Resource Management Plan and Draft Environmental Impact Statement (DEIS).

The DEIS is comprehensive and thorough in its coverage of the issues. As a natural gas transmission company, we generally support the Preferred Alternative, which is the best balanced use approach. This alternative places greater emphasis on protection of the natural environment which creates restrictions on land use areas. The objective of the Preferred Alternative is to make resource trade offs which could favor resource utilization, resource protection, or a compromise between the two.

1 The majority of the objectives and actions identified in the DEIS would be compatible with Questar's projected activities in the Green River Resource Area. However, the closure of the existing utility corridor after the construction of Questar's Main Line 58 pipeline loop is not acceptable. This closure would preclude future storage expansion, looping of existing pipelines, and construction of new utility corridors from the Clay Basin storage facility along the existing rights-of-way. Further analysis and field evaluation is recommended to identify manageable and feasible utility corridors from the Clay Basin storage facility before the vast area is closed to future development.

-1-

85-1 Alternate corridors are being proposed in cooperation with industry. The area is being closed because of resource concerns, that is, the erodibility of the soils in the area. The Red Creek Watershed is an ACEC due to its fragile soils. To reduce erosion, the Bureau intends to reduce human-caused soil erosion.

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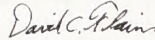
Questar has invested approximately \$96.7 million in the development of the Clay Basin storage facility. This is the largest natural gas storage facility between the midwest and west coast. To facilitate customer demand for storage services, Questar's projected expenditures at the Clay Basin facility are expected to exceed \$58.8 million over the next five years. The storage facility provides a vital and energy efficient service to numerous customers in the Western United States.

3

As a significant regional hub for the storage of natural gas, it is of vital importance that economically feasible and acceptable corridors be established northward out of Clay Basin. If adequate mitigation measures are implemented to protect natural resources, such corridors would not create significant environmental impacts in the Green River Resource Management Area.

Questar appreciates the opportunity to comment on the DEIS and intends to continue working with the BLM to develop the most economically and environmentally acceptable solutions to gas gathering storage and transportation in the area.

Sincerely,



David C. Flaim

-2-

Comment Responses

85-2 Information was not originally included in this document since the Clay Basin storage facility lies just outside the resource area boundary. Since a large portion of the stored gas does come from fields in the resource area, a brief discussion will be included in the mineral section of Chapter 3.

85-3 See response to comment 85-1.

86

Wyoming Region
1607 CY Avenue
P.O. Box 720
Casper, Wyoming 82602
(307) 577-6930
A Division of PacifiCorp

 **PACIFIC POWER**

April 19, 1993

Ms. Renee Dana
Green River Resource Area
Bureau of Land Management
1993 Dewar Drive
Rock Springs, Wyoming 82901

Our reference number is:
CPR-2-WY-1072

Subject: Comments on Green River Resource Area's RMP-DEIS

Dear Ms. Dana:

In your absence, Sally Haverly helped explain the reasoning behind some of the RMP's proposed management objectives in the Draft EIS. I really appreciated Sally taking the time to address my concerns.

As a public utility, I am sure you are aware Pacific Power is required to serve all customers inside our designated service territory, regardless of their type of business, or where they may choose to locate. Because of our commitment to provide the public with the best service possible, at reasonable costs, we are concerned about certain restrictions the preferred alternative may impose on utilities and ultimately to our customers.

The BLM's preferred alternative in the DEIS takes primary management of resources very seriously, and should be commended for that service. While it is true that the majority of the Resource Area is open for oil and gas development, not all areas would be accessible for power lines to serve those customers. We feel the RMP should also give equal diligence to the ancillary needs and suitability of others, both now and in the future. After all, isn't that the principal behind multiple use on public lands?

The following are suggestions or concerns identified by Pacific Power in the document as written:

1. Avoidance areas are defined as "where future right-of-ways may be granted only when no feasible alternative route or designated right-of-way corridor is available." The challenge with this definition is there have not been any "right-of-way corridors" designated, evidently because of conflicting checkerboard land patterns.

86-1 The entire resource area was reviewed to determine if and where designation of corridors, corridor windows, avoidance areas, exclusion areas, and closure of concentration areas should be identified. In accordance with 43 CFR 2806, BLM may formally designate right-of-way corridors across public lands in order to minimize adverse environmental impacts and the proliferation of separate rights-of-way. The designation of a corridor is not a commitment by BLM to issue right-of-way grants within the corridor. No corridors were designated within the resource area due to the checkerboard land pattern through the major right-of-way concentration areas.

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Ms. Renee Dana
Page 2

April 19, 1993

2. There is a need to find a mutually agreeable definition of "power lines". Transmission lines (57,000 volt, or 57 kV and up) are neither easily, nor economically installed underground. On the other hand, distribution lines (below 57 kilovolts) are capable of being installed underground, but the cost is significantly higher, and outages typically result in a longer duration. To avoid long outages, the utility standard is to install a second source of power, thereby creating a looped system. An underground system may be practical for residential subdivisions or in a core business area, but is often not practical for long, radial, distribution lines serving only a few customers. Additionally, changing construction back and forth between overhead and underground lines presents an added danger to our workers. Any requirement or stipulation to bury lines to avoid visual conflicts should take these facts into consideration.
3. Page 44 - Preferred Alternative: "permanent & high profile structures would be prohibited in these areas [sage grouse leks]" If the definition of high profile structure includes power poles, we strongly protest this recommendation as being unnecessary and unreasonably restrictive. Please refer to a copy of a letter written by the Director of the Wyoming Game and Fish Department to the Supervisor of the Oil and Gas Commission regarding sage grouse leks. While Pacific recognizes the need to protect wildlife, we also feel very strongly that each project needs to be evaluated on its own merit...not arbitrarily "prohibited" without any consultation. Seasonal and daylight restrictions have been used successfully to mitigate wildlife conflicts in the past, and we strongly recommend this practice be continued in the future.
4. Land sales/exchanges should address right-of-way grants. We suggest all right-of-way grants located on lands proposed to be sold/exchanged or traded out of federal ownership should be converted into perpetual easements prior to the transfer. This prevents the new landowner from taking advantage of an agreement meant between Pacific Power and the United States government.
5. It seems the word "utility" is used to address only pipelines, not power lines. For example, Map 8 identifies "Major Utility Lines, Concentration Areas, and Communication Sites" but the map doesn't even show one electric transmission line. We have maps available that show electric lines in the Green River Resource Area. Please call me if you would like a copy.
6. Electric distribution lines (service lines) are usually constructed for a specific customer or purpose. Construction practices for small lines often result in less surface damage than would construction practices for most other utilities, yet land use stipulations for pipelines are often confused and imposed on electric lines.
7. Avoidance, exclusion, and no-surface occupancy areas identified to protect a specific resource may place undue burden on other parties. For example, construction of an overhead power line would not normally effect Colorado cutthroat trout or other aquatic species, therefore, consideration of each proposal on a case-by-case basis is preferable, rather than closing an entire area.

86

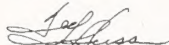
Ms. Renee Dana
Page 3

April 19, 1993

8. We feel the idea of major utility concentration areas, or "windows" as identified and recommended in the DEIS will not always be functional. The northern east-west window has been restricted only to underground lines, while the southern east-west window would allow placement of either overhead or underground utilities. However, the two windows are more than 30 miles apart and it may not be economically feasible to relocate a line that far away unless the line is running in that general direction to begin with. Pacific does agree with the preferred avoidance areas identified by the BLM near I-80 and around petroglyphs.
9. Map 10 identifies Special Management Areas. The preferred plan will impact approximately 25 percent of all right-of-way grants issued in the Resource Area. Tri-State Monument Area Management Actions [Vol. 2, Page 195] calls for an "exclusion" area for right-of-ways, but later states power lines could span the northern part of the drainage. We feel the area should not exclude all activities, but rather individual proposals should be considered on a case-by-case basis.
10. All avoidance, exclusion, and no surface occupancy areas closed to future development would effectively eliminate any future development. While this action protects a particular resource, it also eliminates future opportunities to improve those same resource values through the use of improved technologies, or the use of more effective remedial actions. The RMP does not allow exceptions to the rule, and this option should be kept open.
11. We encourage the BLM's proposed management objectives in protection of cultural and paleontological resources. We also suggest more time and money be spent to analyze and catalogue existing data with the purpose of, first, developing a consensus between agencies (SHPO and the advisory council) and land users, then secondly, establish a procedure that eliminates duplication of studies in the same general area. Often times, surveys completed in the 1970's and 1980's have proven to be untrustworthy in identifying resource values. Are the reports we are doing today going to be just as ineffective tomorrow?

Thank you for the opportunity to comment on the DEIS/RMP, and we look forward to the final document. If you have any questions or need qualification, please give me a call at 577-6935.

Sincerely,



Ted Bliss
Land Agent - Wyoming Region

TH:jc

Comment Responses

- 86-2 The east-west corridor window north of I-80 is closed to aboveground utilities. There is an east-west corridor window south of I-80 which remains open to such utility lines. There is no intent to require the burial of power transmission or distribution lines throughout the resource area. Windows are the preferred location for utility rights-of-way; however, all applications are considered on a case-by-case basis.
- 86-3 Thank you for your comment. These conflicts have been negotiated on a case-by-case basis to minimize any adverse impact.
- 86-4 See response to comment 20-4.
- 86-5 Map 8 meant to depict major utility concentration areas and will be revised.
- 86-6 Each right-of-way applicant is given the opportunity to write a Plan of Development for their project which will result in the protection of those resource values that will be adversely impacted. These plans, when approved by the BLM, are made a part of the grant authorization and serve in place of stipulations imposed by the Bureau.
- 86-7 See response to comment 86-9.
- 86-8 See response to comment 86-2.
- 86-9 The Greater Red Creek Proposed ACEC (formerly Tri-State) will be an avoidance area for rights-of-way except for the Currant Creek drainage which will be an exclusion area. The existing right-of-way concentration area will be closed to future facilities. A new right-of-way window will be established north-south along the east side of Flaming Gorge to accommodate utility lines.
- 86-10 Plan amendments/maintenance are an option if there is a need.
- 86-11 The BLM concurs with your comment regarding prioritization of efforts to synthesize cultural resource data. Priority in the GRRA is given to consultations in compliance with the NHPA to facilitate energy development above this effort. Concerning your question regarding whether cultural resource reports being done today will prove to be ineffective in the future; we hope not. In the past ten years, a fairly consistent methodology for discovering and recording historic properties has developed which is appropriate to today's professional archaeologists and historians. Prior to 1982, there was a great deal of disparity in the methodologies used to search for historic properties. This process of "testing" methodologies is normal for any science.

March 1, 1993

Renee Dana
Team Leader
Green River Resource Area
Resource Management Plan
Bureau of Land Management
P.O. Box 1869
Rock Springs, WY 82902-1869

Dear Team Leader:

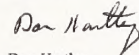
Bridger Coal Company thanks you for the opportunity to provide input on the Green River Resource Management Plan Draft Environmental Impact Statement.

We generally applaud the work that has been accomplished and are limiting our comments to the effect the Plan will have on our ongoing operation and nearby areas of interest. We especially continue to have interest in the Deadman Wash tract as it is adjacent to our existing operation. We have a concern that the cumulative impact of the wildlife concerns, the visual resource management objective, the special management areas, the endangered plant species concern, the cultural and paleontological resource and others will become prohibitively restrictive. If this were to happen, society, in general, and the local economies would not have the benefit of its own natural resource.

Please find our specific wildlife concerns on the attached sheets.

We look forward to working with you in developing a sound commodity production plan while protecting other resources.

Sincerely,



Don Hartley
Director, Environmental Affairs
for Bridger Coal Company

DH:bk
Attachment

Comment Responses

Wildlife Concerns

Bridger Coal Company agrees with the management objectives for wildlife stated in the preferred alternative (volume 1, page 182). However, the details outlined in the management plan have not referenced thirteen years of data collected on wildlife in relation to coal mining, specifically Bridger Coal Company. Acknowledging that there is flexibility built into the mitigation guidelines (Appendix 2) we feel that some of the restrictions outlined in the management plan do not take into account knowledge gained in the last decade concerning wildlife/surface mining conflicts. Four specific areas we feel are important enough to address.

Raptors

1 The preferred alternative (volume 1, page 184) recommends activities be restricted within 1/2 or 1 mile of active raptor nests depending on species. If literally enforced this would preclude surface coal mining in most if not all of the immediate area within the Bridger Permit Boundary, the Deadman Wash area and probably other defined coal lease areas as well.

1600 raptor nests are listed as "active" in the management area (volume 2, page 481). Although not specifically defined in the RMP/EIS draft document, "active" from a regulatory reporting definition means a reproductive nest. Nest status changes annually for many species with reproductive adults rotating through several alternate nest sites over time. It is doubtful that all 1600 nests are used in any given year. Typically about 10% of the available nests are used annually on the Bridger Coal Study area.

Another issue not addressed in the RMP/EIS is the positive effects of raptor nest mitigation techniques developed by the coal mining industry. Where nest sites and mining activities conflict, mitigation has been utilized successfully at Bridger Coal Company since the early 1980's. Many pairs of nesting raptors possibly impacted by mine activities were successfully mitigated. Knowledge gained from raptor nest/mining conflict mitigation has been applied to native nest sites where circumstances warranted action to prevent fledgling mortality.

2 Many species actively select nest sites well within a 1/2 mile distance of mine activities. These include red-tailed hawks, ferruginous hawks, golden eagles, northern harriers, great horned owls and American kestrels. For the last two years (1991 and 1992) the only successful fledging of ferruginous hawks on the Bridger Coal Company study area have been off mine spoil piles. Fox appear to be depredating the native nest sites. Raptors nesting within one mile of mine activities is not all negative.

88-1 Over the past 20 years, wildlife inventories have identified about 2,100 raptor nests within the boundaries of the Green River Resource Area. During the time of inventory, about 1,600 of these nests were actively used by raptors for reproduction. With the downward population trend of several species of raptors, we now estimate that active annual nesting occurs on about 1,200 of these nests. The lower incidence of active nesting by burrowing owls, ferruginous hawks, and merlins indicates a greater need to protect these habitats. Yes, Bridger Coal Company has had good success with raptor nest mitigation techniques.

88-2 Thank you for your comment.

88

Big Game

- 3 The preferred alternative in the draft RMP/EIS document prescribes seasonal restrictions on crucial winter areas for big game species (volume 1, page 184). Coal mining is not a seasonal activity once a mine is initiated. Mitigating the loss of habitat by surface disturbances is typically accomplished through timely reclamation and reestablishment of vegetative communities.

Bridger Coal Company would like to point out timely reclamation is achievable: contrary to general public perception that surface mine disturbance is permanent. The most recent inventory of vegetative communities on Bridger Coal Company's reclamation (1990) indicates shrub reestablishment meets or exceeds the new Wyoming Department of Environmental Quality/Land Quality Division standards and vegetative production is greater than on native areas.

Successful reclamation should be considered a resource within the resource management area. There is documentable evidence wildlife communities are utilizing the resource. Flexibility and judgement on the part of the regulatory authorities when considering seasonal restrictions should continue as described in appendix 7

Wild Horses

The management of wild horses as described in the preferred alternative (volume 1, page 180) states that "Other resource uses would be maintained and protected consistent with resource objectives. . .". Timely reestablishment of vegetative communities on reclaimed mine land is a resource deeply entwined with mitigation of temporary habitat loss due to surface coal mining.

- 4 The current wild horse appropriate management level for the Divide Basin herd unit indicates a necessary harvest of over 150 animals. Bridger Coal requests a regular harvest targeting horses on the Bridger Coal Company permit. Horses have aggressively colonized the reclamation and are adversely impacting areas of revegetation by overgrazing. Attempts by BLM and Bridger Coal Company to drive the horses off the permit have not been successful. The animals return, usually within days, to the same locations they were driven from. Fences are not insurmountable barriers to these animals.

Discussions with Wyoming Game and Fish Department biologists prior to the term 3 renewal of the mine permit resolved the south portion of the permit would not be fenced to allow unimpaired pronghorn migration to areas of crucial winter habitat. This will potentially allow freer access to revegetated areas by horses. Bridger is willing to consider building an enclosure or corral to drive horses into if BLM is willing to remove the animals *permanently* from the permit area.

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Sage Grouse

- 5 Sage grouse have been monitored on the Bridger Coal Company study area for several years. Population trends based on peak male counts on two leks do not indicate mining is adversely impacting the local grouse population. One lek is within 1.75 miles of mine activities. Again, mitigation for loss of sage grouse habitat is based on timely reestablishment of vegetative communities.

Comment Responses

- 88-3 The new Wyoming DEQ standard does not fully meet wildlife requirements for reestablishment of suitable shrub communities. By application of proper mitigation on leases, crucial big game ranges will receive the desired protection.

- 88-4 The Appropriate Management Level (AML) for wild horses within the Divide Basin Herd Management Area HMA (which includes the Bridger Coal permit area) is 500 horses (range of 415 to 600). The number of horses identified in the most recent census (February 1993) was 519. It is expected that the population will reach 623 animals after the 1993 foaling season. Our current gathering plan calls for the removal of 123 to 208 horses which would maintain the population within the established AML threshold. We will remove excess horses from the permit area; however, a complete removal is neither practical nor legal. We will continue to work with your company to address any problems you may encounter with wild horses in the future.

- 88-5 We agree with the timely establishment of the vegetation. The main thing here is impacts to the lek and/or nesting habitat. The birds can be on the lek but if there are no nesting areas, there will be a negative impact.

Comment Responses

General Chemical Corporation
acting as agent for General Chemical (Soda Ash) Partners

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Green River Soda Ash Operations
P. O. Box 551
Green River, Wyoming 82935-0551
(307) 875-3350

VIA Certified Mail #

April 16, 1993

Ms. Renee Dana, Team Leader
Bureau of Land Management
Rock Springs District
P.O. Box 1869
Rock Springs, WY 82902

Re: Comments on draft Resource Management Plan, Green River Resource Area

Dear Ms. Dana:

On behalf of General Chemical (Soda Ash) Partners ("GCSAP"), General Chemical Corporation is submitting the attached written comments concerning the draft Resource Management Plan and Environmental Impact Statement ("RMP") for the Green River Resource Area, Rock Springs, WY. General Chemical (Soda Ash) Partners appreciates the opportunity to express its' views and thanks the Bureau of Land Management in advance for their consideration.

Our concerns are two fold. First, the draft RMP centers on the lack of specific policy addressing the emerging conflict between longterm development of sodium minerals and the development of commercial oil/gas drilling within the known sodium leasing area, or KSLA. We suggest the RMP is the appropriate document to address this issue and provide sufficient guidance for the appropriate development of both resources. Second, the socio-economic analysis used in the RMP for projecting the future performance of the trona industry needs to be revised to reflect real price expectations and market demands.

General Chemical offers its' assistance to the Bureau to discuss and resolve this important issue. Please feel free to contact me at (307) 872-3430 with your questions or comments.

Sincerely,

Scott G. Britton, P.E.
Manager, Strategic Mine Planning

cc: E. J. Waite III, Esq.
K. E. Clark
S. Freudenthal, Esq.
M. Loomis

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Written Comments
on the
Draft Resource Management Plan
and
Environmental Impact Statement
Green River Resource Area

General Chemical Corporation is pleased to offer the following comments concerning the draft Resource Management Plan and Environmental Impact Statement for the Green River Resource Area. General Chemical has identified two issues the Bureau of Land Management ("BLM") must consider in the final draft. First, BLM should address the emerging conflict between commercial oil and gas drilling companies and sodium mineral development companies on lands lying within the known sodium leasing area. Second, BLM has reported trona output and valuation without considering market forces or other impacts to price and, as a result, grossly overstated the value of soda ash in the coming years.

Issue #1 - Resource Development Conflict

1 The purpose for developing the Green River Resource Management Plan ("RMP") as stated by the Federal Bureau of Land Management in the draft document is "to provide an updated comprehensive and environmentally adequate framework for managing and allocating uses of public lands and resources in the Green

90-1 See response to comment 31-8.

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River Resource Area."¹ As a result, the BLM has the responsibility of creating a blueprint for managing current and future development of public lands within the Green River Resource Area ("GRRA"), as shown in Figure 1, taken from the draft RMP.

The authority for the BLM to exercise its' powers in determining land and mineral resource management is drawn from Section 202(f) of the Federal Land Policy and Management Act of 1976 ("FLPMA") and Section 202(c) of the National Environmental Policy Act of 1969 ("NEPA"). Further to this, BLM is guided by the planning regulations contained in Title 43 of the Code of Federal Regulations, part 1600 ("43 CFR 1600") and the Council on Environmental Quality ("CEQ") regulations in 40 CFR 1500.

From a study of these regulations, BLM is required to create a management decision framework which anticipates resource conflicts between developers and provides suitable guidance for all parties involved in the conflict. The RMP, when approved, will supersede all other planning documents for the area in question.² The draft RMP does in fact contain much information and provides guidance for solving a wide variety of resource allocation problems and inevitable conflicts in this important

¹ from Summary, page 3, Volume 1, draft Resource Management Document.

² The current planning documents were published in 1981 and are identified as the Big Sandy and Salt Wells Management Framework Plans.

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area.

One conflict the RMP does not address is an emerging resource development conflict between commercial oil and gas drilling and sodium mining and processing within the area covered by the RMP. This conflict centers on the drilling of commercial oil and/or gas wells within the known sodium leasing area ("KSLA"). Although safety and the viability of trona mining is foremost in our minds, we are also concerned with the fact the BLM feels both industries can operate at the same time. Once the commercial wells are sunk, large blocks of trona ore would be required for protection around the wells for a long period of time (and possibly, forever).³ General Chemical is opposed to any drilling of commercial wells within the KSLA until after mining ceases and suggests this position be supported by the BLM with action to withdraw commercial oil and gas well drilling from lands lying in the KSLA.

Although both industries have long histories of operating in Wyoming in general and the GRRA in particular, only recently has the commercial oil and gas industry aggressively sought to drill within the KSLA. However, in the draft RMP, BLM has avoided discussing this issue and provided no guidance in direct opposition to its' responsibility under the Federal regulations

³ The blocks of trona are required by BLM to avoid ground movement and protect; 1) the commercial well, 2) any attendant surface structures, as well as, 3) the miners working in the underground trona mines.

cited above. General Chemical suggests that BLM can fulfill its' responsibility towards resolving conflict under the RMP and support the trona industry by applying three (3) substantial arguments.

2

First, under the identified planning issues' section, Issue Number 5 - Special Management Areas allows the BLM to protect and manage "important areas, values, or resources in the resource area that meet the criteria for protection and management under special management designations." General Chemical points out the trona deposits located in southwestern Wyoming are unique and are important resources to both the United States and the world. According to the Geological Survey of Wyoming in 1985, "the Green River Basin of southwestern Wyoming contains 134.4 billion tons of mineable trona and mixed trona and halite. This is enough to supply the current world demand for soda ash (refined trona) for about 2,000 years." These deposits cannot be found in commercial quantities anywhere else in the world, and thus, BLM should consider this deposit as a unique natural resource and its' development as an important value to the public interest.

In contrast to this unique depositional history of trona, oil and gas deposits, although forming deep in the earth's crust, are relatively common natural deposits. As a result, drill rigs, refineries, pipelines, and storage tank farms can be found in

⁴ from Summary Page 12, Volume 1, draft Resource Management Plan

Comment Responses

90-2 We are aware of the unique value of trona in southwest Wyoming. However, since the majority of the known sodium leasing area occurs within the Kemmerer Resource Area, the potential for special management designation will be evaluated in a revision for the Kemmerer RMP. We are also familiar with the potential conflicts and health and safety concerns with development of both trona and oil and gas. Currently, policy for management in the KSLA is being reviewed and a decision will be made outside the scope of this plan. Also see response to comment 31-8.

almost every state in the U.S. and every country of the world. To place the development of the commercial oil and gas industry ahead of the unique and important resource of trona mining runs counter to the purpose and need of the RMP. If BLM allows commercial oil and gas development prior to trona mining, it could ruin the development of the surrounding trona deposit as well as escalate the costs of producing soda ash through increased mining costs.

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Second, in the draft document BLM dismissed the alternative of eliminating mineral leasing because, in part, "This proposal was eliminated from further analysis because it would be contrary to BLM policy, that, 'except for congressional withdrawals, public lands shall remain open and available for mineral exploration unless (to do otherwise)...is clearly justified in the national interest' (May 24, 1987)"⁵. If BLM proceeds to allow commercial oil/gas drilling within the KSLA and further enforces a wide barrier pillar around each drilled hole, it is General Chemical's opinion that BLM will, in effect, withdraw substantial trona reserves (used as a barrier pillar) from the public lands without congressional approval and without a clear national interest.

The barrier pillar radius required around wells has been

⁵ from Summary, Page 18, Volume 1, draft Resource Management Plan

90-3 See response to comment 31-8.

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3 suggested by a BLM document⁶ to be the greater of either 850 feet
 Cont'd or the result of the formula, $r = \tan \theta \cdot h$, where θ equals the
 angle of draw for that mine and h equals the vertical distance
 from the Kelly bushing to the top of the trona bed. The angle of
 draw for strata within the KSLA ranges from 34° to 40°.

As Figure 2 demonstrates, Bed 17 reserves lying at 1,600
 below the surface would require a barrier radius between 1,080
 and 1,343 feet for each hole drilled. An estimated 3.5 million
 in-place tons would be lost to the barrier for each hole. If past
 commercial oil and gas industry patterns are an indication of
 drilling practices within the KSLA, four (4) holes would be
 drilled per section based loosely on the spacing shown in Figure
 3. Clearly, substantially more trona will be withdrawn from the
 public domain in the form of barrier pillars and these pillars
 will overlap adjacent sections if the commercial oil and gas
 industry follows its usual practice. Future trona reserves in
 deeper beds (Beds 1, 2, 12, and 14, for example all lie below
 1,800 feet and form the basis for targeting future mineable trona
 reserves) will require even greater barrier pillars and withdraw
 more trona ore from the public interest.

Leaving substantial trona pillars also results in both
 potential employment and market value losses for the trona

⁶ unpublished draft BLM policy entitled, Wyoming Trona/Oil and Gas
 Conflict Policy proposed following the solicitor's review of August 3, 1992.

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3 industry as well. Mining the 3.5 million tons of trona (removed
 Cont'd from potential mining if commercial oil and gas development were
 to occur) would require 250 workers full time for an entire year
 (250 manyears of labor). In addition, the commercial value of
 the soda ash extracted from the trona would be in excess of \$85.6
 million in gross revenues and over \$4.2 million in estimated
 Federal mineral royalties.

General Chemical further points out that required barrier
 pillars around drilled commercial wells may be large enough so
 that both public and private land Sections (which are contiguous
 to the Section where the commercial wells are drilled but not
 leased by the commercial oil and gas companies) may also be
 blocked from trona mining. This will heighten the effect of
 withdrawing trona mineral from public lands.

Third, BLM states their management objectives for solid
 leasable minerals such as sodium and trona are as follows: "The
 objectives for management of the federal sodium (trona) resource
 would be to provide for both short- and long-range development of
 federal sodium (trona) in an orderly and timely manner."
 General Chemical suggests that commercial oil or gas wells
 drilled in the KSLA will negatively impact both short- and long-
 range planning by the trona mining companies. Allowing
 commercial oil and gas well development within the KSLA on a

⁷ from Summary, Page 161, Volume 1, draft Resource Management Document

lease by lease basis (or some other random/ad hoc basis) would effectively force the sodium companies to do two things, namely 1) bid for oil and gas drilling rights on sections they control (or may bid on) in an effort to ensure they can be developed for trona mining, and 2) stop their bidding, planning, and mine development activities at the borders of sections where oil and gas drilling rights have been already leased or holes exist. The reasons for trona companies reacting in such a manner reflect the long term nature (20, 30, or 40 years or more) of main entry development strategies, the heavy capital investment required for mains development, and the poor flexibility of these major mining plan development strategies to change, stop, and/or start. The net effect of such a reaction is the increasing cost of trona mining and the potentially negative impacts to production, employment, and tax revenues due to the competitive marketplace found in today's soda ash business.

By allowing commercial oil and gas development simultaneously with trona mining, the BLM would appear to be choosing just the opposite position in terms of encouraging orderly and timely development of trona resources.

4 For the three reasons cited above, General Chemical requests BLM to include language in the Preferred Alternative protecting the trona reserves within the KSLA and keeping these trona reserves open to the public for exploration and development.

General Chemical further suggests the BLM defer commercial oil and gas leasing within the KSLA area until such time as trona mining is completed.

Issue #2 - Trona Valuation

5 Finally, General Chemical is concerned with the valuation of trona used by BLM for socio-economic analysis in the RMP. The values demonstrated in Tables A10-4 and A10-5⁸ are not supported by current trends nor is there any discussion as to how the State of Wyoming, Department of Administration and Fiscal Control derived these escalating sales values. Without additional analysis in this area, the economic projections taken from such valuations will undoubtedly be flawed.

Notwithstanding the growth in U.S. soda ash exports in recent years, Wyoming producers' position in world markets is already extremely tenuous. Excess capacity exists throughout the world, with producers willing to sell at any price level that enables them to recover their variable costs. China, formerly an importer from the U.S., is now an exporter of soda ash. Turkey appears to be examining its' deposits for future development. Other countries are doing the same.

Much of the growth in U.S. exports in recent years was

⁸ from Appendix 10, Page 805, Volume 3, draft Resource Management Plan.

Comment Responses

90-4 See response to comment 31-8.

90-5 Thank you for your comment. We are not aware of deficiencies of the trona escalating sales values as prepared by the State of Wyoming Department, Department of Administration and Fiscal Control. No additional analyses have been submitted from other sources such as the trona industry.

Changes in Wyoming's economy are increasingly becoming dependant on or related to national and world economies and especially their rapid shifts and changing trends. As such, economic studies are often outdated by the time they are published or within a few years. Changes in foreign nations' (such as China, Turkey, and the European Economic Community) trona development or sales policies are beyond the control of the BLM Green River Resource Area.

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5 attributable to the declining value of the U.S. dollar. That too
Cont'd has turned as the dollar has strengthened over the past two
years, making it increasingly difficult for domestic producers to
compete on price terms in European and other foreign markets.
Likewise, eastern European producers have substantial competitive
advantages over U.S. producers on sales into Europe. Within the
past year European producers have cut their prices quite
significantly. Major firms on the continent of Europe have cut
their prices to levels below those at which General Chemical
would be dumping were it to sell at such prices⁹. Beyond these
competitive pressures in the marketplace, the European Economic
Community has imposed strict anti-dumping rules on the Wyoming
soda ash industry.

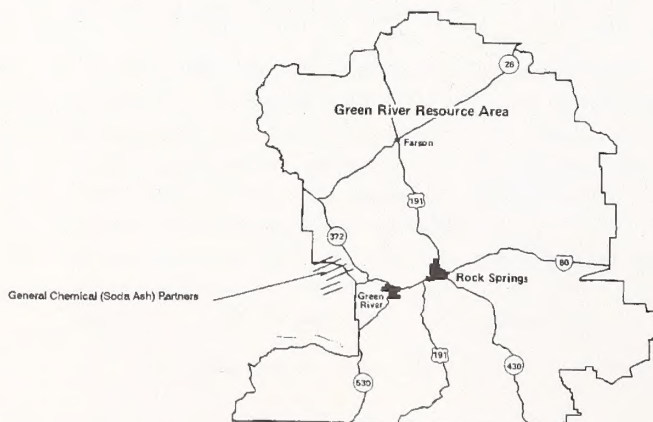
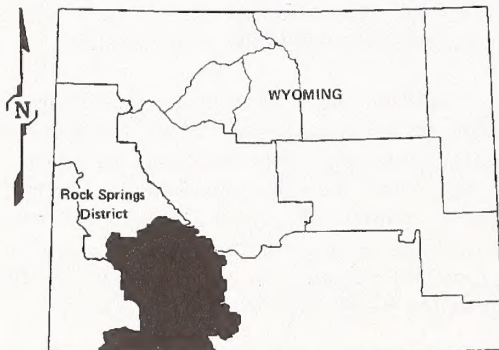
Considering the market pressures facing the soda ash
industry at present and in the future, General Chemical suggests
the draft RMP be revised to reflect a more accurate forecast.

⁹ Internal General Chemical documents.

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Figure 1

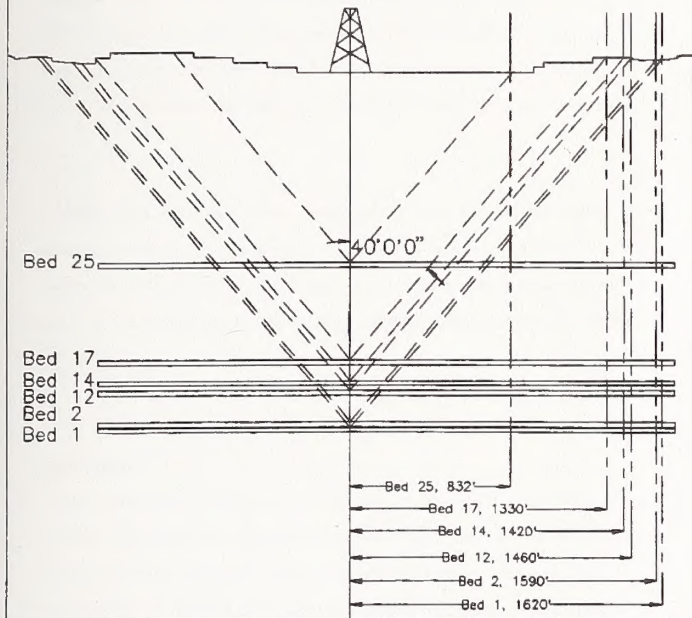
General Location Map - Green River Resource Area



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Figure 2

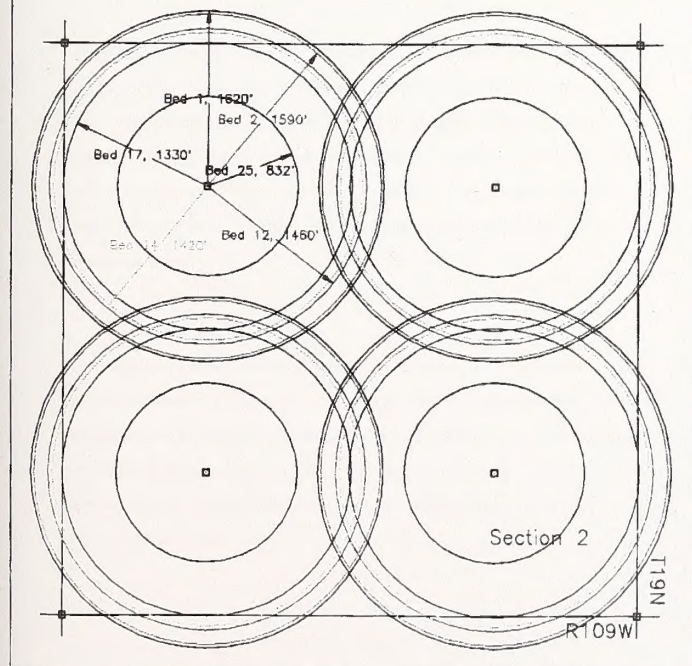
Radii of Trona Bed Barrier Pillar
With 40 Degree Angle of Draw



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Figure 3

Radii of Trona Bed Barrier Pillar
With 40 Degree Angle of Draw



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General Chemical (Soda Ash) Partners

Comments on the draft
Resource Management Plan
and
Environmental Impact Statement

Green River Resource Area
by

Scott G. Britton, P.E.
Manager, Strategic Mine Planning

Thank you and good evening. I am Scott Britton and on behalf of General Chemical (Soda Ash) Partners, I would like to submit the following comments concerning the draft Resource Management Plan and Environmental Impact Statement (or "RMP") for the Green River Resource Area, Rock Springs, WY. General Chemical (Soda Ash) Partners appreciates the opportunity to express its' views and thanks the Bureau of Land Management (BLM) in advance for their consideration. In addition, we expect to file additional written comments with the BLM prior to the expiration of the public comment period on March 4, 1993.

General Chemical (Soda Ash) Partners through its' managing partner, General Chemical Corporation, owns and operates the second largest soda ash mining and processing facility in Wyoming. We are one of the top ten employers in Sweetwater county with most - if not all - our workers living in Sweetwater County. We control mineral resources which will allow us to operate well into the next century. In short, we have a great interest in the current and future economic and environmental

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development taken in our community.

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General Chemical has carefully reviewed the draft RMP. On the whole, it is well done, with much thought and effort going into this work. The one concern we have lies with the minerals leasing priorities as discussed in your alternatives. As a producing soda ash company, we would respectfully ask that the Resource Management Plan be revised to clearly recognize that oil/gas exploration and production activities within the known sodium leasing area ("KSLA") be held in abeyance until such time when all the sodium mineral has been mined and processed. General Chemical feels there are several sound reasons within the public interest for making such a policy. These include geological, business, and legal reasons. I shall briefly mention them here.

Geological Reasons

The trona deposits located in this area of Wyoming are virtually unique to the world. As a result, there are few alternative (and none in the United States) areas for mining trona as it is done in southwestern Wyoming. This is in contrast to oil/gas development which is practiced in many states and all over the world. General Chemical suggests the trona industry is unique and worthy of some consideration and protection. If oil/gas development were allowed within the KSLA, even on a sporadic basis, it could greatly damage future development of the natural trona industry in Wyoming.

90-6 See responses to comments 31-8 and 90-2.

Comment Responses

90-7 See response to comment 31-8.

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Business Reasons

As I mentioned earlier, General Chemical is a major business entity in Sweetwater County. We are only one of five soda ash companies located here and taken as a whole, the soda ash business represents a stable, longterm industry employing thousands of workers and generating millions of dollars in business and employer taxes each year. The spin-off industries supporting the soda ash business are also extensive and provide wide employment within the Green River Resource Management Plan. These factors should encourage the BLM to maintain and foster the current situation as one means of managing BLM-administered public lands and resources.

Further to the comments just made, I would like to remind the BLM of the fact that Soda Ash companies pay tens of millions of dollars every year in sodium mineral royalties from leases on public lands. These royalty payments are projected out over operating lives in excess of 100 years...something BLM may not see in royalties from gas wells.

Legal Reasons

7 Finally, there are valid legal arguments BLM should consider while drafting their final Resource Management Plan criteria. The doctrine of "first in time...first in right" is clearly at work in the KSLA and should be relied upon to limit the encroachment of oil/gas development until such time as the sodium leases are exhausted when sodium leases

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pre-date the oil/gas leases on the same Section. BLM has applied this doctrine to other minerals, such as coal and potash, and could easily work this into the RMP criteria.

8 However, when the reverse is true and oil/gas leases pre-date sodium leases, BLM should recognize that such development will "unreasonable interfere with" existing mining operations as promulgated in 43 CFR 3500.6 regulations. Because this authority is also within the guidelines of BLM policies, it should be included within the RMP so that no confusion exists in the future. Failing to make this priority clear to all interested parties could set in motion an unfortunate chain of events leading to ~~another~~ downturn in the trona industry.

In conclusion, the draft RMP is a well prepared and thought-out document. General Chemical applauds the BLM for its' comprehensive work, but suggests the RMP can be improved with the addition of language clearly indicating the priority of trona mining over oil/gas development within the KSLA. We expect to file written comments covering these remarks and several additional reasons before the close of the public comment period on March 4, 1993.

Thank you for your time.

90-8 BLM has adopted language for oil and gas and sodium leases informing the lessee that operations may not be approved which might interfere with the orderly development and/or production of a prior mineral lessee.

April 13, 1993

RHÔNE-POULENC OF WYOMING, L.P.
P.O. BOX 513
GREEN RIVER, WY 82935
TEL: (307) 875-2600

Mr. Gene Kinch
Manager, Rock Springs District
Bureau of Land Management
P.O. Box 1869
Rock Springs, Wyoming 82901-1869

Dear Gene:

We appreciate the extension given to comment on the Green River Resource Area Management Plan. We have three specific comments we wish to pursue.

- 1 First, the section on trona industry economics in Appendix 10 is inadequate. The assumptions in Table A10-4 are untenable, simply projecting a continuous increase in both tons and price. A stronger approach would be to project best, worst, and most probable scenarios for tonnages and pricing. Factors directly influencing these outcomes should include the proposed royalty rate increase, tax effects (current and proposed) and reflect some understanding of export market conditions. Given that the basin's recent growth has been virtually entirely in export markets, these projections should recognize that competitive pressures will dampen both price increases and sales volumes especially when combined with royalty and tax increases.
- 2 Second, the preferred air quality management alternative does not recognize the statutory primacy of the EPA as delegated to WDEQ-AQD within the state of Wyoming. The management objective to "minimize emissions which may add to acid rain, cause violations of air quality, or reduce visibility" (emphasis added) is so broad and ill defined as to be unenforceable. To address complex regional visibility concerns requires a substantial effort and resources to define the scope of the study, the areas of concern, and the standards applicable to that area. The BLM is not likely able to support that effort. A better preferred alternative would be to support existing air quality regulatory programs.
- 3 Our third and final concern lies with resolution of the conflict between the Known Sodium Leasing Area (KSLA) and oil and gas leasing. The bureau has committed to resolving this critical issue for these unique resources in this planning framework. However, the final proposed resolution by the bureau remains unissued. The concurrent development of gas and trona reserves is infeasible given the BLM's most recent proposed pillar requirements of a minimum 850 feet. Both the short and long term development of Federal trona reserves will be negatively affected by the development of gas reserves within the KSLA.

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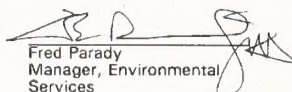
Comment Responses

- 91-1 Thank you for your comment. We do not have the staff available to develop an analysis to the extensive degree requested. Also see response to comment 90-5.
- 91-2 Obeying or not obeying laws and regulations are not alternatives open to BLM management. The BLM role in upholding existing regulations is described in the affected environment section of the document, page 344. The preferred alternative is the BLM position in regard to managing air resources in the arenas where we have both concerns and the ability to affect the outcome (i.e., issuing mineral leases, prescribed burning, issuing rights-of-way, issuing Permits to Drill for oil and gas wells).
- 91-3 See response to comment 31-8.

The intensive capital required for infrastructure construction for underground mining requires long time frames for both planning and to earn a return on investment. The value of the basin's unique trona reserves, combined with the large capital requirements necessary for economically efficient mining, preclude concurrent development of oil and gas reserves within the KSLA. The preferred alternative should protect these trona reserves, particularly in view of gas development projections in the "Bull's Eye" or Green River Basin.

We appreciate the opportunity and time to comment, and look forward to the incorporation of these comments into the final document. We also look forward to reviewing the next iteration of this process.

Cordially,


Fred Parady
Manager, Environmental
Services

FEP/dh

CC: M. Duffy
J. Trafton
J. Spurrier
R. Richardson

File: FEP6493



**SOLVAY 92
MINERALS**

Richard A. Anderson
Vice President

March 11, 1993

Renee Dana, Team Leader
Bureau of Land Management
Rock Springs District
P.O. Box 1869
Rock Springs, Wyoming 82902

RE: Draft Resource Management Plan Environmental Impact Statement
for the Green River Resource Area

Dear Ms. Dana:

Solvay Minerals is located west of the Green River Resource area. Currently we lease federal sodium resources and produce approximately 2.5 million tons of trona per year. We submit the following comments based on our review of the draft environmental impact statement. Our comments address general subjects that occur throughout the alternative management plans submitted in the draft statement.

- 1 The preferred alternative states that Interstate 80 between Green River and Rock Springs would be managed for Class II visual values. We believe that this segment of Interstate 80 should be managed as a Class III visual area to allow for future development while at the same time retaining most of the existing character of the landscape. This segment serves as the transportation and communication link between Rock Springs and Green River. Designation of this segment of Interstate 80 as a Class II visual area may be too restrictive to allow for necessary development as the communities grow.
- 2 The preferred alternative restricts surface disturbance and geophysical activity within 1/4 mile or the visual horizon of historic trails. Also, wild horse viewing areas would be closed to surface disturbance within a 1/2 mile radius of the viewing area. Solvay Minerals believes that these limitations are too restrictive and will accomplish little for protection of the trails or to enhance wild horse viewing. Surface disturbance should be allowed within these areas provided it blends into the natural landscape and retains the existing character of the landscape. Seasonal restrictions could be applied during construction or exploration

Solvay Minerals, Inc.
3333 Richmond Avenue, Houston, Texas 77098 Mailing Address: P.O. Box 27306, Houston, Texas 77027 713/591-6500 Fax: 713/591-5611



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March 10 1993
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activity. Presently the Bureau of Land Management (BLM) requires stringent environmental and cultural resource assessments for proposed areas of surface disturbance. Approval or denial of activity near cultural resources or wild horse viewing areas should be based on each individual application.

- 3 The preferred alternative also states that no above ground facilities would be allowed on or within a 1/4 mile radius of active sage grouse strutting grounds. Solvay Minerals proposes that construction of minor above ground facilities such as fences, monitor wells, etc. should be allowed, except during strutting season within a 1/4 radius of active sage grouse strutting grounds. Approval or denial of activity near a sage grouse strutting ground should be based on each individual application to BLM.
- 4 The preferred alternative prohibits dumping of produced water on roads unless TDS is less than 400 mg/l and the water does not contain hazardous material. We believe the TDS standard is too restrictive. Many sources of water used for dust suppression on roads within the resource area exceed this standard. This restriction would make dust suppression extremely costly because of increased haul distances. Some potable water supplies may have to be utilized to meet the 400 mg/l standard.
- 5 Appendix 5-1 recommends that topsoil stockpiles be no more than 3 to 4 feet high to maximize surface area to reduce impacts to soil microorganisms. This requirement is unreasonable when large areas of surface disturbance occur. Areas of surface disturbance would increase greatly as a result of this policy because of the increased areal extent of topsoil stockpiles.

The preferred alternative closes areas containing soils with permeability rates of no more than 0.1 foot/day and water tables less than 100 feet from the surface to industrial plants, mill sites, or associated tailings ponds and sewage lagoons. This range of permeability is found in silty sand, silt, loess, glacial till, sandstone and limestone. Low permeability is desirable for the siting of tailings ponds and sewage lagoons. Solvay Minerals requests further clarification of this statement because it would prevent construction of these types of facilities within much of the resource area. We believe construction of these facilities should be based on an individual site assessment and appropriate best engineering practices.

Comment Responses

- 92-1 We agree. We can retain the scenic values between the two cities with a VRM Class III. This classification will allow future urban expansion and other developments that are outlined in the Sweetwater County Land Use Plan. Site specific analysis will be done to ensure the visual quality of this area is maintained. Coordination and consultation with the cities and county will be essential during the project planning phase to maintain the visual values of the area.
- 92-2 No wild horse viewing areas are planned to be constructed within the Known Sodium Leasing Area (KSLA) and should therefore not be cause for concern in the development of the trona resource. These types of activities within the vicinity of any wild horse viewing area would be analyzed on a case-by-case basis.

The 1/4 mile restriction on developments near historic trails is based on the Oregon/Mormon National Historic Trails Management Plan (1986) and cannot be altered where the Congressionally designated Oregon, Mormon Pioneer, California, and Pony Express National Historic Trails are concerned without amending that plan. The Preferred Alternative does address other kinds of historic trails and proposals to manage them differently in some cases (see page 123). Generally though, in the Green River Basin, the length of time required for vegetative reclamation to ameliorate the effects of surface disturbance results in most kinds of disturbance being a relatively long-term visual impact on historic trail resources.

- 92-3 Thank you for your comment.
- 92-4 See response to comment 35-10.
- 92-5 Where practical, lower stockpiles maintain a greater viable soil microbe population than larger piles which limit oxygen and water to the interior.

Exclusion of permanent structures in floodplains is national policy (Executive Order 11988, 5/24/77).



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Solvay Minerals appreciates the opportunity to review and comment on the draft resource management plan. Please direct any comments or questions to Mr. Charles L. Preston, telephone 872-6521, of our Green River Operations staff.

Sincerely,

SOLVAY MINERALS, INC.

Rich Hodgson
Richard A. Hodgson
Vice President

jld

CC: R. L. Casey/J. D. Phillip
D. A. Potter/C. L. Preston



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WYOMING MINING ASSOCIATION

April 19, 1993

PHONE 635-0331
AREA CODE 307

Mr. Bill LeBarron
Green River Resource Area Manager
United States Department of Interior
Bureau of Land Management
P.O. Box 1869
Rock Springs, Wyoming 82901

HITCHING POST INN

P.O. Box 866
Cheyenne, Wyoming
82003

RE: Green River RMP

Dear Mr. LeBarron:

The Wyoming Mining Association (WMA), a trade association which represents the bentonite, coal, trona and uranium industry in Wyoming, wishes to express several major concerns regarding the management of public lands and minerals within the Green River Resource Area. Conflicts due to concurrent development of Federal mineral resources are becoming more commonplace due to increases in oil and gas exploration and production. Within the Known Sodium Leasing Area (KSLA) no standard method is available from the Bureau of Land Management (BLM) to evaluate these conflicts.

- 1 In 1992, a number of trona companies from the Green River Basin (GRB) worked with the Rock Springs District BLM Office. The effort targeted the increasing concerns of the trona industry regarding conflicts occurring in the GRB due to simultaneous development of trona, oil and gas. The mining industry supports and respects the fact that the BLM must administer the concept of multiple use, which in this case means multiple mineral development. Unfortunately, differences exist in the recovery requirements for trona, oil and gas resulting in conflicts that can be difficult to resolve. Let me expand on the problem as we understand it.

The problem is created by issuing trona, oil and gas leases on the same acreage. This results in a conflict if both lessees proceed to develop their respective resources concurrently. For example, a trona company may encounter an oil well being drilled and developed in front of its mining operation. The trona company must either mine around the well, leaving millions of dollars worth of trona in place, and for which it may none-the-less, be liable for payment of royalty, or arrange with the oil and gas operator to abandon and remove the well. In either case, a financial burden is imposed on the trona company to resolve the problem. This situation is further compounded by diligence regulations governing trona, oil and gas leases which require the leases be developed or terminated for lack of development. The conflicts may be exacerbated by BLM provisions allowing temporary but indefinite cessation of oil and gas operations based upon market conditions or unitization

93-1 See responses to comments 31-8 and 90-8.

93-2 See responses to comments 31-8 and 90-8.

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Mr. Bill LeBarron
April 19, 1993
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considerations. These approved suspensions in existing oil and gas operations may present obstacles to efficient and orderly development of trona resource in those locations. The absence of flexibility inherent within the regulations, plus the differing requirements to develop, are the key factors which may precipitate the conflict.

An equitable process to resolve the conflict has not been established. The BLM's current position requires the parties to resolve the conflict themselves. Unfortunately, such a position generally penalizes the trona company. The high cost and limited flexibility of mine development require time frames that preclude resolution of the conflict. Thus, the trona company generally has the burden to mine around the well, or buy out the well and often the underlying oil and gas lease. To our knowledge, the petroleum operator rarely, if ever, has borne the cost burden of the conflict in either the Green River trona and Powder River coal basins. BLM's assistance to resolve these types of conflict which treats the parties fairly while providing for optimum recovery of both resources is needed.

3 The process for resolving conflict in the KSLA should recognize the unique value of trona and that gas development should follow trona mining. We suggest the development of policies and guidelines for adoption by the Green River Resource Area to resolve these conflicts in the following manner:

- 1) Review draft regulations and proposals from other states which are experiencing the same concerns.
- 2) Review draft regulations on coal, oil and gas conflicts in Wyoming.
- 3) Solicit recommendations from Green River Basin trona lessees and operators.
- 4) Bring together Green River Basin trona, oil and gas lessees, and the BLM to draft conflict resolution guidelines.

While policies and guidelines are being developed to address the concerns cited above, we propose two interim steps. First, BLM should map and publish permitted mine areas and areas within the Conventionally Minable Trona Area (CMTA).

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3 Cont'd Second, BLM should work with the individual companies to identify Federal sodium tracts which may be included in future lease applications. The information developed by these interim steps will serve as a resource enabling BLM to catalog areas of potential conflict which may arise due to concurrent development activities by trona, oil and gas. This information would then be used by the BLM in deciding when to consider the issuance of oil and gas lease within these areas.

In closing, the Wyoming Mining Association wishes to sound its support for the regional planning the BLM is undertaking. Comprehensive planning for the use of our Federal lands and minerals provides that both public and private interests in those resources are protected. We appreciate the opportunity to voice our concerns over what we see as a significant problem in the development of overlapping trona, oil and gas leases. The solution is really one of planning ahead to resolve, or preferably avoid, the conflicts of multiple mineral development. We also believe the solution is not the sole responsibility of the BLM, and we want to remain active in drafting appropriate guidelines. The WMA is committed to work with the BLM and the petroleum industry to develop a solution. Thank you very much.

Respectfully,
WYOMING MINING ASSOCIATION

Marion Loomis
Marion Loomis
Executive Director

MEL/prm

CC: Governor Sullivan
BLM State Director
Congressional Delegation

c:\wp51\p4000\LeBarron

Comment Responses

93-3 See responses to comments 31-8 and 90-8.

Renee Dana
Bureau of Land Management
P.O. Box 1869
Rock Springs, Wyoming 82902

Dear Ms. Dana:

- 1 Regarding the draft Green River Resource Management Plan, the Friends of Wild Wyoming deserts have the following comments. In general, we ask BLM to manage for maximum protection of the many unique and fragile resources in the Green River Resource Area. Much of the scenery, wildlife, recreation opportunities, geologic features, and cultural resources comprise treasures of national significance. These should not be jeopardized for short-term economic gain through the exploitation of non-renewable natural resources. We find that BLM's proposal to authorize mineral development and oil and gas leasing on nearly 3.2 million acres, of the 3.5 million acres of public land in the Resource Area, is not balanced multiple-use, nor does it provide adequate protection for important resource values.
- 2 Specifically, we believe that Alternative C of the Plan would provide the best resource protection of the four alternatives, but Alternative C should be improved before it is implemented.
- 3 We request that BLM offer IMP protection, or at least ACEC designation, for all Citizens Wilderness Study Areas. These are the areas which BLM dropped from the Wilderness Study process under the anti-wilderness sentiments of previous administrations, but which are now being recommended for Wilderness by the Citizens' Wilderness Proposal for Wyoming BLM Lands. These include Honeycomb Buttes addition, Harris Slough, Big Empty, Joe Ray Rim, The Pinnacles, Parnell Creek, Elk Mountain, Tabernacle Butte, Teepee Mountains, Anvil Wash, the Cottonwood Creek addition to Scab Creek, Little Muddy Creek, and Coal Creek. The exact boundaries of these areas will be published in the Citizens Proposal--due out next fall. However, you could obtain the draft proposal from Liz Howell, at the Sierra Club, 23 North Scott, Sheridan WY 82801. Additionally, we ask that all BLM Wilderness Study Areas which are not designated as Wilderness by Congress be designated as Areas of Critical Environmental Concern by BLM. In fact, it would be appropriate to designate all of the WSAs and Citizens WSAs as ACECs in this RMP planning process. We have noted that BLM designated the Dubois Badlands and Whiskey Mountain WSAs as ACECs in the Lander RMP. Our field exploration of each of the Green River Resource Area WSAs, additions, and Citizens WSAs, has shown that these also are fragile areas "where special management attention is required to protect and prevent irreparable damage to important historic, cultural, or scenic values, fish and wildlife resources or other natural systems or processes."
- 4

- 5 We support the ACEC status of Sand Dunes, Oregon Buttes, White Mountain Petroglyphs, Cedar Canyon, Natural Corrals, Pine Spring, and Red Creek, and encourage ACEC designation for the South Pass Historic Landscape, Steamboat Mountain, Pine Spring Expansion, Sage Creek, Currant Creek, and the maximum acreage (31,340 acres) for all Threatened and Endangered candidate plant species known and potential habitat. We also call for appropriate study and monitoring of ferruginous hawk populations, and the Wortman's golden-mantled ground squirrel colony of the south end of Steamboat Mountain, and any other colonies that may occur in the Resource Area.
- 6
- 7 We join other conservation groups in the state in calling for Congressional designation of a Red Desert/Great Divide Basin National Conservation Area. Until such Congressional action occurs, BLM should designate the region as a Special Management Area to protect the many natural features that collectively make the Red Desert/Great Divide Basin a national treasure. This region, one of the largest undeveloped tracts in the conterminous United States, includes some of the oldest evidence of human occupation on the continent, a portion of the longest chain of active sand dunes in North America, mafic ultra-potassic volcanic features--which occur in only four locations on Earth, the world's only known occurrence of maudipite, the world's largest herd of pronghorn antelope, a remnant herd of desert elk, uniquely desert- and saline-adapted plant and animal species, fossils from an ancient inland sea, and many other special features. In fact, the very formation of a Great Divide Basin--where the Continental Divide splits and the land between drains to neither the Atlantic nor Pacific Oceans--is unique in North America.
- 8 These resources and the associated scientific, recreational, scenic and cultural values cannot be protected in a piecemeal fashion at the local level. The entire Red Desert/Great Divide Basin region must receive broad protection in the RMP and as a National Conservation Area. We call for BLM to prohibit all new major utility corridors, rights-of-ways, roads, coal mining, oil and gas leasing, other mineral development, and surface-disturbing activities, and to restrict vehicle travel to designated roads and trails, except in designated ORV areas or where necessary for grazing leasees or BLM administration.
- 9 Desert Friends call on BLM to give maximum protection for crucial winter range and parturition areas for elk, moose, deer, and antelope. Important hunting and wildlife viewing opportunities depend on the security of these areas. We join the U.S. Fish and Wildlife Service in asking that BLM prohibit surface coal and hard rock mining on all big game crucial winter ranges and parturition areas. Oil and gas leases on these sites should contain No Surface Occupancy stipulations, because seasonal stipulations do not provide protection during the production phase of development. We also request that BLM begin an analysis of historic bighorn sheep ranges within the Green River Resource Area, and make plans to reintroduce this species where it has been extirpated.
- 10

Comment Responses

- 94-1 The Green River RMP was developed using an interdisciplinary team approach to managing the natural resources in the planning area. The BLM manages public lands in southwest Wyoming for multiple use, and the plan provides for the balanced use and protection of natural resources. Approximately 957,000 acres of public land is within the checkerboard portion of the resource area and all of the coal and trona, and much of the oil and gas development is within this area. It is important that leasing take place in this area to provide for the orderly development of the resource and to protect the United States' interests.
- 94-2 Thank you for your recommendation for land use management of the resource area. This advice has been considered along with all other public input provided. The selection of this proposed resource management plan seeks a balance between protection of the environment and production or commodity uses.
- 94-3 No decisions regarding Wilderness Designation were made in this document. Recommendations regarding the suitability of BLM-administered lands in the Green River Resource Area were made in the Rock Springs District Final Wilderness EIS (August 1990) and the Adobe Town-Ferris Mountains Final Wilderness EIS (December 1987). Areas of Critical Environmental Concern (ACECs) are areas that require special management attention to protect the important and relevant values found there. They are not alternatives to wilderness suitability. The planning team, composed of interdisciplinary specialists, did not find the areas you listed to have these values.
- 94-4 BLM disagrees. Our interdisciplinary planning team did not find these areas to have important and relevant values necessary for ACEC status. Additionally, some of our Wilderness Study Areas are also ACECs. They are the Oregon Buttes, Sand Dunes (Sand Dunes and Buffalo Hump WSAs), Pine Springs (Twin Buttes/Devil's Playground WSA), and Red Creek. Additionally, ACEC designations are not to be used as substitutes for suitability recommendations (BLM Manual 1613.06).
- 94-5 Thank you for your advice for special management area administration. Your recommendation, along with all other public input provided, was considered when selecting a proposed resource management plan to manage these areas. This proposed plan applies restrictions to proposed special management areas to protect their identified critical values. For those areas not proposed for special management area protection, we also seek a balance between protection of the natural environment and production or commodity uses.
- 94-6 We are monitoring these species with primary emphasis being placed on habitat to sustain these species. Thank you for your comment.
- 94-7 The designation of the Red Desert as a National Conservation Area is beyond the scope of BLM, and would require legislative action by Congress. The Red Desert was considered as a special management area by the GRRA interdisciplinary planning team. The boundary of the area to be studied was the hydrologic boundary of the Great Divide Basin. This area included approximately 482,000 acres, of which 141,000 acres lie within the checkerboard land portion of the GRRA. The checkerboard portion of the area was dropped from further consideration because of the private lands and development in the area. It was the consensus of the team that the Red Desert did not meet the criteria for designation as an ACEC. The team did agree that the most important quality of the Red Desert was its vastness and agreed that we should manage the area for its

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11 We ask that BLM require bird- and bat-proof netting or covers on all pits, ponds, and tanks containing toxic and hazardous liquids in association with activities on public lands in the Resource Area. According to the draft RMP, "Probably the greatest limiting element presently facing resident and migrant waterfowl is direct loss from open waste water ponds." Requirements to prevent this loss seem compulsory for compliance with the Migratory Bird Treaty Act.

12 We call on BLM to maintain the high quality viewsheds, airsheds, and watersheds within the Resource Area. BLM's preferred alternative states that "visual resources would not be protected" on about 2.7 million acres of public land (of 3.5 million acres total). One of the Resource Area's greatest assets is its natural, open, relatively undeveloped landscapes. To allow major visual intrusions in over 3/4 of the planning area is completely unacceptable, especially in light of the fact that these dry open landscapes are often impossible to rehabilitate fully, and visual intrusions can be seen for miles.

13 Allowing development on the scale of BLM's preferred alternative would also result in degraded air quality and ground and surface water quality. Wyoming is famous for its clear scenic vistas and fresh air. BLM should protect, and even improve, the Resource Area's air quality to the greatest extent. Likewise, this region of very low rain and snow fall needs maximum protection for the limited ground and surface water sources in order to maintain use by wildlife, livestock, and humans, and to provide plant cover for forage and soil stabilization. BLM efforts to acquire small acreages, consolidate parcels, and restrict camping within 500 feet of wetlands and wildlife waters for watershed protection are a step in the right direction, but much more protective management is needed. For example, motorized vehicle use should be restricted to designated roads and trails, not "existing" roads and trails which were often developed indiscriminately and in areas of unstable, highly erosive soils.

15 Other general concerns with the draft RMP include the sale of public lands for radioactive, nuclear, toxic, or hazardous waste storage or disposal--this should be prohibited in the Resource Area. The use of M-44 sodium cyanide guns and other poisons and chemicals for predator control should also be prohibited.

16 BLM should adopt meaningful utility and transportation corridor avoidance areas. The current RMP description of "avoidance areas" as "areas on public lands where future rights-of-way may be granted only when no feasible alternative route or designated right-of-way is available" will do little, if anything, to protect sensitive areas. Based on a similar description in the Lander RMP, a Canadian company is now planning to build a 32-inch gas pipeline through the historic South Pass gold mining region and Oregon Trail--both dry, open landscapes with fragile soils that will not rehabilitate in our lifetimes. Right in the Green River Resource Area's Sand Dunes ACEC, many golden eagles are killed on powerlines every year, and only a couple years ago, BLM planned to allow Triton Oil and Gas Corporation to build over 30 miles of new road and 50 miles of new pipeline. Please revise your RMP to

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17 protect ACECs, cultural and historic sites and their viewsheds, scenic landscapes, sensitive areas, and important wildlife habitats from damage by roads, pipelines, powerlines, and other utility corridors.

18 In conclusion, we believe that BLM managers should make a concerted effort to look to our immediate future and the needs of coming generations when designing land-use plans. Reliance on non-renewable resources is a shrinking part of the nation's economy and lifestyle; while natural, open spaces are becoming scarcer all the time, and demand for resource-related recreation opportunities has been increasing for at least the last forty years. The draft Green River RMP and BLM's preferred alternative do not reflect adequate consideration of future natural resource needs. The analysis of environmental consequences is inadequate, as the EPA has pointed out in their comments on the draft RMP, and every alternative in the RMP provides for resource exploitation (under the guise of Multiple Use) without adequate resource protection.

19 We are calling on BLM to develop a supplemental draft RMP/EIS that adequately analyzes and explains to the public the environmental consequences of BLM's preferred alternative and the other alternatives. We also request an alternative that provides meaningful protection for the Red Desert/Great Divide Basin region and other important sites and values in the Resource Area. Thank you for hearing our concerns.

Sincerely,

Lynn Kinter
Lynn Kinter
Director

Comment Responses

visual qualities. The VRM management classes will be modified to reflect the scenic value of the area.

94-8 The RMP provides the framework for management of public lands. Land use planning is designed to guard against piecemeal management. The plan provides for the protection of recreation, cultural, and scientific values. Staff specialists were part of the interdisciplinary team that developed this plan. Currently, there are many uses existing in the area including rights-of-way, utility corridors, and mineral development. Any plan for development would address procedures for meeting the objectives of the established Visual Resource Management classes. The ORV designations within the Red Desert are balanced with closed areas (95,580 acres) and designated roads and trails (245,480 acres). There are no open areas within the boundaries of the Red Desert.

94-9 Crucial winter and parturition habitats are given ample protection as described in Appendix 7-1. The same stipulations are added as appropriate to other actions on public lands.

94-10 These concerns were discussed in the Coal Screening process. Please refer to the coal screening discussions.

Over 50 percent of public lands in the Green River Resource Area are classified as winter range and 38 percent of these lands are classified as crucial winter range. We do have provisions for making NSO determinations if it becomes necessary. However, currently, there is no evidence to suggest that a blanket closure to surface use would be necessary. Through the requirements of NEPA for all mineral related activities, but specific to these areas, the Bureau feels that we can adequately protect the wildlife resource while we allow development of the mineral resource.

It is BLM policy to cooperate with the Wyoming Game and Fish Department in any reintroduction effort. We did analyze conflicts associated with bighorn sheep reintroduction in Utah and their potential future movement into Wyoming.

94-11 Netting hazardous waste pits, ponds, and tanks is BLM policy and will continue to be in the future. Protection of migratory birds through such actions as netting was not discussed in the DEIS, but is included in the appendices of the Final EIS.

94-12 We agree that the statement the "visual resources would not be protected" on 2.7 million acres is unacceptable. Therefore we changed classification in several areas in order to protect visual resources. Visual resources are important and the BLM makes every effort to screen and paint facilities to blend into the natural landscape. All projects are reviewed for their visual intrusions and effect on visual qualities.

94-13 The BLM has been consulting with the Wyoming DEQ and involved industries from the Green River Basin on the development of an intensive air quality monitoring study to look at the sources and impacts of air quality and visibility degradation that appear to be occurring in the area. The Wyoming DEQ is studying a proposal to establish a monitoring program. The BLM would take an active role in commenting on the proposal to ensure the study adequately addresses the concerns related to visibility and air quality degradation which have been brought to us. Once a strategy has been agreed upon by all involved parties, the role of the BLM in conducting the study can be clarified.

94-14 An Off-Road Vehicle (ORV) implementation plan needs to be developed and implemented for the Green River Resource Area after finalization of the RMP. Resource concerns and the needs of the public will be major factors developing this plan.

Comment Responses

BLM-Wyoming ORV policy designations include closed, open, limited to existing roads and trails, limited to designated roads and trails, and seasonal closures. It is beyond the scope of this RMP to change BLM-Wyoming State policy.

- 94-15** See the criteria for sales in Appendix 8-2, page 769 of the Draft EIS. The sale of lands to serve an important public objective meets the criteria for disposal. Any such use would require an environmental impact statement and would have to be permitted by the State Department of Environmental Quality and meet the county zoning regulations.

The APHIS proposal to use the M-44 as another tool in controlling predation on domestic livestock was analyzed in the Rock Springs District Environmental Assessment - Predatory Animal Damage Control on Public Lands (November 1993). The Decision Record (March 1994) authorized only conventional methods of control (i.e., shooting, calling and shooting, aerial shooting, trapping, and denning). M-44s, poisons, or other chemicals are not authorized on public lands within the Rock Springs District.

- 94-16** We disagree that describing an avoidance area will do little to protect the environment. An avoidance area, as defined, will be avoided unless there is no other feasible route. Prior to issuance of a right-of-way, an environmental assessment must be completed and it must be shown that impacts to the environment can be mitigated.

- 94-17** We have made every effort in the RMP to protect resource values from the impacts of construction. All projects are evaluated and mitigation applied to reduce or eliminate adverse impacts.

- 94-18** We agree that the needs for nonrenewable resources are increasing as the economic analysis in the RMP shows. The RMP does place emphasis on mineral development because of the trona deposits, natural gas reserves, and coal reserves that are located in the GRRA. Planning is necessary to provide for the orderly development of these resources which are important to the economy of southwest Wyoming. Much of this development is occurring in the checkerboard portion on the resource area. It is important that the BLM protect its interest in mineral development. The plan provides for increased recreation use in designation of backcountry byways, horse viewing areas, Wildlife 2000, and Oregon Trail interpretive development. Plan emphasis is being placed on increasing visitor use to the resource area. The plan also provides forage necessary to meet the Wyoming Game and Fish Department's strategic plan objective for wildlife.

- 94-19** The process for an RMP provides for a draft for public review; after the comment period, BLM reviews the comments, modifies the document as appropriate, and issues the RMP Final EIS. The final document will allow for a 30-day protest period.



WYOMING CHAPTER 95 SIERRA CLUB

Renee Dana
BLM District Office
P.O. Box 1869
Rock Springs, WY 82902

Dear Ms. Dana,

March 12, 1993

Please accept the following comments on the Green River draft Resource Management Plan on behalf of the Wyoming Chapter Sierra Club. We represent the state chapter of the national Sierra Club with more than 800 members who are active users of public lands.

As you know we have been working on a number of BLM projects including the Red Desert National Conservation Area proposal as well as the Alternative BLM Wilderness Proposal for the statewide wilderness and roadless areas. We submit these comments with these proposals in mind in order to not forego any opportunities. We appreciate the effort that has gone into this extensive planning document and support the concept of developing a RMP for long term (15-20 years) management.

- 1-5** Riparian area - The maps are a nice addition and are well done. The soils and vegetation maps are welcome. However, there seems to be no riparian zone along the Green River. Can you explain this omission and correct it? Also, it would be helpful to know where on the maps the range problems occur so they can be targeted for improvement plans. We expect all of the riparian areas to be reclaimed rather than only 75 percent of the riparian areas targeted for improvement in the Preferred Alternative. The BLM is responsible for getting all of the riparian areas in "functional condition" and keeping them that way. The riparian areas have too long been sacrificed to overgrazing, compaction and erosion by livestock overuse. Where riparian areas show the signs of over-grazing with poor native plant representation, low water table, poor regeneration of willows and trees and stream bank erosion, a reclamation program must begin to rest the area. No livestock should be allowed in riparian areas for extended periods of time. We support your riparian acquisitions for Trout Creek and Currant Creek and urge you to protect their wetlands values.

ACECs and Special Management Areas - Areas of Critical Environmental Concern are designated to protect the values of these lands. The present ACECs include: Cedar Canyon, Greater Sand Dunes, Natural Corral, Oregon Buttes, Pine Springs and White Mountain Petroglyphs. Additions proposed include: South Pass, Steamboat Mountain, Currant Creek, Red Creek, and Pine Springs expansion. We suggest that the areas of the initial inventory for wilderness study be considered for ACEC designation as well. ACECs are sustaining damage from roading, mineral

6-9 "Not blind opposition to progress, but opposition to blind progress."

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development and vandalism, due to the lack of oversight and stipulations by the agency. These ACECs and SMAs should be managed for their resource protection not resource production. NSO stipulations and minimal roading should be enforced. We suggest that the BLM work closely with The Nature Conservancy Heritage Program staff to protect listed and candidate plant and animal species on the resource area. Again, we urge you to manage these areas for their sensitive status as part of the Big Picture of the Red Desert National Conservation Area.

- 10** Off Road Vehicle Use - We encourage your efforts to make an ORV plan that is enforceable. ORVs have become a nuisance on public lands because the drivers don't usually respect WSA boundaries. ORVs must be kept on roads and not be allowed to cause soil, wildlife or riparian impacts. With an anticipated increase of 40 percent over the next 20 years a strict education and enforcement plan must be in place to minimize resource impacts.

- 11** Wilderness Study Areas - The Green River Resource Area has the largest number of Wilderness Study Areas in the state which offer a wide range of biodiversity of plant and animal species and topography. This area includes the Red Desert which is being studied for designation as a National Conservation Area. The BLM needs to establish a strong presence in these areas to enforce wilderness management goals, educate the public, and protect the wilderness values on the WSAs. This high desert ecosystem offers a rich diversity that is not represented in other protected areas in the West. Monitoring of WSAs is essential to the protection of the pristine character of these roadless areas. We encourage the BLM to reclaim two tracks with native grasses to prevent further degradation and erosion.

- 12** Range - Allotment management plans need to be completed, since only 33 of 79 allotments currently have a plan. Wyoming Game and Fish Department personnel who work in the resource area cite instances where the poor range condition has detrimentally affected wildlife quality and quantity. Monitoring must be done to show where the problems are and to evaluate how best to correct them. Monitoring has been minimal at best and needs to be increased to identify the trends of range condition throughout the resource area. Where necessary allotments should be targeted for AUM reduction such as the Cumberland allotment and numerous riparian areas where conflicts have caused resource damage. When permittees do not comply with the terms of the AMP, the stock should be removed and the permit withdrawn. We do not agree with fencing as a range management tool since it restricts wildlife movement and causes concentrated use along fenceline. Riparian areas should not be managed for livestock due to their habit of hanging in the bottoms causing stream bank erosion, compaction and overgrazing. No grazing permits should be subleased.

- 13** Wild and Scenic Rivers - As avid river enthusiasts our members support Wild & Scenic River recommendations for all eligible rivers on the Green River Resource Area. Specifically we

Comment Responses

- 95-1** The area along the Green River is identified as riparian. However, when the "screen" was placed on the original map depicting the Green River (high water mark), the riparian area was erased.

- 95-2** Appendices 9-1, 9-2, and 9-3 refer to allotments and management actions planned for the allotments. Map C shows the location of the allotments in the resource area. The RMP document covers the entire resource area and site specific information is available on a site specific basis in the allotment files at the resource area office.

- 95-3** The Director's policy concerning riparian areas signed in 1987 stated that BLM would have 75% of the riparian areas under its jurisdiction in good or better condition by 1997. This was later changed to "proper functional condition." To remain consistent with that policy we have also chosen the 75% level as our goal in the Preferred Alternative. This does not mean, however, that beyond the ten-year goal we would not continue our efforts at restoring riparian areas; indeed we would continue to work on all riparian areas.

- 95-4** Thank you for your comment. We intend to implement restoration programs under our riparian initiative.

- 95-5** Agreed. Livestock grazing use should be timed to accommodate the health of the riparian area vegetation or the desired plant community. The timing and duration of such use will be determined at the activity plan level for each allotment that has riparian areas.

- 95-6** See response to comment 94-3.

- 95-7** ACEC management provides for both protection of sensitive resources and for acceptable levels of development. The ACEC boundaries encompass all types of resources and the entire acreage within an ACEC may not require the most stringent protection measures.

- 95-8** We have a good record of cooperation with The Nature Conservancy. They have performed numerous status surveys under contract for the BLM, and they are in frequent contact with the District Botanist to update rare plant records.

- 95-9** Thank you for your comment.

- 95-10** See response to comment 94-14. We agree that educating the public is essential to gain compliance for Off-Road Vehicle use and other BLM programs. We currently provide presence and information to the public during holiday weekends and hunting season to gain visitor compliance. More of this work is needed and BLM will continue to improve on this visitor service program. Until the RMP is finalized and the Wilderness Study Areas (WSAs) are closed to motorized vehicles, most of the WSAs will remain "limited to existing roads and trails." In other words, people who drive into the WSAs on roads and trails are not violating the law. Once this document is finalized, BLM Rangers will be able to issue citations to people who drive into WSAs. BLM has issued a *Federal Register* notice closing the Oregon Buttes WSA because the two-track trails have developed into "roads." These roads are causing serious erosion problems with the potential of impairing the suitability of the area for inclusion to the National Wilderness Preservation System.

See responses to comments 94-15, 95-7, 95-13, 97-6, and 99-7. The Proposed Plan recommends that off-road vehicles be limited to designated roads and trails on 1,006,335 acres. We also closed certain areas to vehicle use to protect sensitive resources. We felt that if vehicles travel "existing roads and

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request recommendations for Green River, Currant Creek and Forks, June Creek, Beef Steer Creek, Sweetwater River, Red Creek, Little Red Creek, North Fork Bear Creek, Big Sandy, Pacific Creek and Canyon Creek.

14 Cultural Resources - The Green River Basin is one of the richest fossil beds in the world. In addition numerous native cultures have inhabited the area over the course of civilization. These cultural values must be protected to a greater extent than they have in the past. The petroglyphs at White Mountain and Cedar Canyon are good indications of that. We urge you develop a presence at these sites in order to protect these historic and cultural resources.

15 Predator Control - Conventional use of predator control should not be continued. BLM must not allow M-44s, aerial shooting over critical winter range nor random poisoning. Alternative methods of predator control including sheep guard dogs and intensive herding should be implemented. The Worland District BLM recommended against M-44 use and noted it was not a precedent. Green River RA should do no less.

16 Mineral, oil/gas leasing - We are concerned about the vast acreage that is recommended for leasing in the Preferred Alternative. The Green River Basin is a vast expanse of oil/gas wells and mines. Unfortunately, the multiple use mandate of the Federal Land Policy and Management Act is not being met when minerals and fossil fuels are the first priority. By contrast, under Alternative C coal production, coal bed methane, and oil/gas would still be allowed to proceed; however it would be with more concern for wildlife, water, soil and air resources. This multiple use approach is supported by conservationists.

17 Coordination - The BLM should coordinate the RMP with the anticipated needs of wildlife as proposed by the Wyoming Game and Fish Department in their Strategic Plan. We endorse the selection of Alternative C with WY GFD coordination to ensure future protection of wildlife and fisheries on the resource area.

Thank you for providing this opportunity to comment and we look forward to working together in the future.

Sincerely,

Meredith Taylor
BLM Committee

Meredith Taylor

Comment Responses

trails" over the majority of the planning area, no undue resource damage would occur. The RMP also calls for an ORV implementation plan that would replace the two existing ORV plans. This "activity" plan would allow for public participation in the ORV designation process.

95-11 We agree that the BLM needs more presence in the area of the Red Desert. This is currently occurring with ranger patrol, monitoring of WSAs, and weekend contacts during high use periods. The RMP will provide the foundation for future planning and budget justification to provide for more presence and the necessary management actions to manage the area. We have rehabilitated all seismic lines and two-tracks inside the Oregon Buttes WSA.

95-12 Thank you for your comment. Currently we have an intensive rangeland monitoring program on all Allotment Management Plans. As a result, we are evaluating existing high-priority AMPs to determine the effectiveness of the plans and making necessary modifications. Fencing is only one tool to manage livestock to meet resource objectives. The Wyoming Game and Fish Department reviews every fence that is proposed.

95-13 Most of the rivers you listed for inclusion into the National Wild & Scenic River System (NWSRS) were found to be not "suitable" based on the screening factors listed in the document.

95-14 We agree that a more aggressive protection program is needed both in general and with regard to several specific sites within the Green River Resource Area. The Preferred Alternative calls for site specific Cultural Resource Management plans to be written for several sites, including the White Mountain and Cedar Canyon rock art sites and several other sites. We anticipate that "a management presence" in the form of interpretive/management signs will be part of those plans. We appreciate your comment and invite your comments on both the implementation plan which will follow the completion of this RMP and the specific CRMPs that are anticipated in the next few years.

95-15 See response to comment 94-15.

95-16 The Green River Basin is an important mineral area in the United States. Managing for multiple use does not mean the development of one resource over the detriment of another resource. It is the intent of this plan to provide for the orderly development of our mineral resource, while protecting and enhancing the renewable resources. See response to comment 94-2.

95-17 Thank you for your comment.



March 3, 1993

Renee Dana, Team Leader
BLM District Office
Box 1869
Rock Springs, Wyoming 82902

Dear Ms. Dana:

I used to live in Wyoming - In Laramie and travelling across to Rawlins and Rock Springs and Evanston rather often. So I have some knowledge of the Red Desert area.

- 1 I urge you to adopt Alternative C of the draft RMP and to improve it a bit. Specifically, the BLM should, in our opinion, maintain all the existing ACECs and all of those proposed in the draft.
- 2 The plan adopted should be sensitive to biodiversity concerns and to preserving historic and cultural resources. It is better to lean toward preservation now than to let losses occur and then regret it. So Special Management Areas should be off limits to mineral and oil/gas leasing with attendant exploration and development.
- 3 There are some wild and scenic rivers in the area. Those which are eligible and have no significant contrary considerations should be recommended for inclusion in the national system. We have few enough wild and scenic rivers left.
- 4 ORVs have been tearing up the Green River Resource Area for decades, devastating soil, wildlife and riparian areas. That must stop. They should be restricted to designated roads - with clear designation and all feasible enforcement. That restriction should be in Alternative C.

Thanks for considering our concerns.

Sincerely,

John M. Wade
John M. Wade
Chapter Conservation Chair



Comment Responses

96-1 See responses to comments 94-2 and 94-5.

96-2 BLM policy provides that public lands will be made available for mineral development unless it is withdrawn for a specific purpose. Any withdrawal larger than 5,000 acres must be approved by Congress. Special management areas such as ACECs were identified in the plan. Any type of development must include a plan of how the proposal will not affect the resource values that met the relevance and importance criteria for ACEC designation. Actions must also conform to the objectives of the management plan for the area.

96-3 We disagree that the "eligible" rivers should be included into the National Wild & Scenic River System (NWSRS). They are "unsuitable" using the screening factors that have to be considered when reviewing a river for inclusion into the NWSRS.

96-4 See response to comment 94-14.



4/12/93

Renee Dana, Team Leader
Bureau of Land Management
Box 1869
Rock Springs, Wyoming 82902

Dear Renee:

The following represent GYC's comments regarding the DEIS and DRMP for the Green River Resource Area. I sincerely hope you will give these comments serious consideration -- not only because of GYC's legitimate interest and concerns, but because I've had the personal good fortune to have worked at the South Pass City Historic Site (where I was part of the research team which identified key sites in the South Pass historic landscape; Mike Massie was the director), and over the years I've explored virtually every square mile of the Red Desert, and the very unique natural areas and features in that special region of Wyoming. (I was lucky enough to ramble around this country with the likes of Tom Bell, Dick Randall, Bruce Hamilton and Jack Pugh.)

- 1 At the outset, GYC would like to go on record in staunch support of the comments sent you by the Wyoming Outdoor Council. GYC recognizes that only Alternative C begins to provide any meaningful protection for the conservation resources of the Red Desert. We urge the selection of Alternative C, but with the following strengthening improvements:
- 2 In addition to the retention of ACECs in Alt. C, we support designation of the South Pass Historic Landscape, Steamboat Mountain, Pine Spring Expansion, Sage Creek, Currant Creek, and all ESA candidate plant species ACECs.
- 3 *RED DESERT--Since many important natural, scenic, historic, and cultural areas in the Red Desert are located in the extreme Southeastern portion of the Greater Yellowstone Ecosystem, we fully support the Sierra Club and Wyoming Outdoor Council's Congressional Proposal for a Red Desert National Conservation Area. (In fact, I was one of the people who

97-1 See response to comment 94-2.

97-2 Thank you for your comment.

97-3 See response to comment 94-7.

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2.
drew up an earlier version over 10 years ago.) We urge you to support this proposal to Congress, and in the interim, designate the Red Desert as a Special Management Area so you will manage these nationally important conservation values in a way that they will not be impaired.

- 4 *SOUTH PASS HISTORIC LANDSCAPE-- We support Alt. C, with the following improvements: the area should be off-limits to any and all new major utility corridors, roads, pipelines, rights of way, coal mining, oil and gas leasing and development; the area should be granted a mineral withdrawal, ORV use should be restricted to designated roads and trails (with exceptions provided for "necessary tasks"), plus the authorization of livestock grazing should go forward when grazing is consistent with maintaining the integrity of wildlife, watershed & other resource values.
- 5 *STEAMBOAT MOUNTAIN-- This incredible area must be designated as an ACEC. This important wildlife area (for elk and raptors, etc.), scenic wonder, and cultural site (buffalo jumps) should be withdrawn from coal and hard-rock mining, oil and gas leasing and development and any and all other surface disturbing activities. ORV's should be restricted to designated roads and trails.
- 6 *We support the designation of the Tri-State Monument as an ACEC under Alt. C. We support the designation of the Monument Valley ACEC under Alt. C and urge that it be enlarged to include the Haystacks to the north. We're pleased to see the proposal for the Pine Springs ACEC enlargement in Alt. C. We strongly support this proposal.
- 7 *GREATER SAND DUNES--The Greater Sand Dunes complex is one of the most unique natural features in the West. This mosaic of dunes and freshwater ponds, and ice-cells (plus the Boar's Tusk) deserves the strongest possible protection. Alternative C should be improved by closing the area to all forms of mineral development, and should be off-limits to additional utility corridors.
- 8 *WILDERNESS STUDY AREAS-- Some of the very finest WSAs in Wyoming are located here in the Red Desert and Green River RA. All WSAs that are not designated by Congress as Wilderness should be granted ACEC status.
- 9 *WILDLIFE-- The area is amazingly rich in wildlife numbers and diversity. Elk, moose, pronghorn, predators, eagles, hawks, owls, and falcons all call the Red Desert their home. 55% of the planning area is classed as crucial winter range and calving/fawning areas for elk, deer, moose, and pronghorn. Crucial habitat should be placed off-limits to all surface disturbing activities during periods critical to the species. Active sage and sharptail grouse leks should be protected by 1 mile buffer zones.

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- 10 3.
*Visual Quality--The area is blessed with numerous major historic trails -- there should be a one-mile buffer of Class II visual quality standards on both sides of these trails. (This should hold true for the Continental Divide Trail as well.)
- *Other issues -- We strongly support WOC's positions concerning the following: Lands and Realty Actions, Utility/Transportation Systems, Animal Damage Control, Recreation, and Mineral Withdrawals.

Thank you for the opportunity to comment. Please send us all future documentation, reports, and the final EIS at the appropriate time.

Sincerely,



Bart Koehler
Associate Program Director

Comment Responses

97-4 The intent of the Preferred Alternative is to strike a balance which would allow developments in some places in the South Pass area. The South Pass Historic Landscape designation was reduced from the area analyzed in Alternative C to include only that visual landscape that could actually be seen from the trail. The vista area would be an exclusion area for all rights-of-way. ORV use will be restricted to designated roads and trails. Any surface disturbance would have to submit a plan of operations that addresses measures to mitigate the affects to the viewscape.

97-5 This area is important and we have identified it as such. Withdrawing all this area from mining and oil and gas activities is beyond the scope of this document. Any mineral withdrawal over 5,000 acres requires Congressional approval. The best alternative was to identify the critical habitats and then to develop a site specific plan to protect these areas. ORVs have been limited to existing roads and trails in the Steamboat area since the completion of the Big Sandy EIS in 1982.

Our inventory data from the Steamboat Mountain region is admittedly limited; however, we have no record of any "buffalo jump sites" in this area. There are several other kinds of significant archaeological sites recorded within the greater Steamboat Mountain area. We have deliberately not published descriptions and locations of some kinds of significant cultural resources because they are very sensitive to destruction.

97-6 Thank you for your comments. Proposed ACECs were re-analyzed for their relevance and importance. Please note the changes in the text for the Greater Red Creek (formerly Tri-State Monument) proposed ACEC. Significant data gaps exist for resources within the Monument Valley area. A decision to nominate or designate the area an ACEC will be determined after intensive natural resource and cultural inventories and determination of their significance.

97-7 The Greater Sand Dunes is a unique natural feature. The BLM has recommended to Congress that 27,384 acres of the Sand Dunes be designated as wilderness; the remaining 10,500 acres of sand dunes is open to off-road vehicle use, and is either leased for oil and gas or leases are being held under production. To reduce the impacts to the area, the plan would restrict the number of pads per section to one pad in the eastern half of the area.

97-8 We disagree with the statement that "all WSAs not designated by Congress should be granted ACEC status." Areas of Critical Environmental Concern (ACECs) are areas that require special management attention to protect the important and relevant values found there and are not intended to be a substitute for wilderness suitability. The planning team, composed of interdisciplinary specialists, did not find some of the "non-suitable" WSAs to have these values.

97-9 We agree. These areas have seasonal restrictions during critical periods (such as nesting, parturition, or winter ranges). Leks are already protected with a 2-mile buffer zone from the center of the lek.

97-10 A ¼ mile avoidance area for historic trails is consistent with the approved Oregon/Mormon Pioneer National Historic Trails Management Plan of 1986. Any developmental activity on public lands would have to go through the National Environmental Policy Act (NEPA) process. During this site specific analysis, all potential impacts to the trail would be reviewed. We feel a ¼ mile avoidance area is sufficient to protect the Historic and Continental Divide Snowmobile trails.

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P.O. Box 6032
Laramie, WY 82070

April 19, 1993

Renee Dana
Team Leader
Bureau of Land Management
P.O. Box 1869
Rock Springs, WY 82902

Dear Team Leader,

The following are our comments on the Green River Resource Area Resource Management Plan/Draft Environmental Impact Statement. Please include them in the public record.

- 1 First, we would like to state our support for Alternative C. We believe this is the only alternative which in any way works toward a balance of uses and interests for this important part of the public domain. This is especially true given the huge man-made impacts already present across this area.
- 2 We would also like to urge you to develop another, easier to read format for the Final EIS and Plan, or for the second Draft EIS/plan, whichever is forthcoming. The complexity and format of the current document make it very difficult for citizens interested in the management of these lands to comment substantially, because it is so difficult to read and interpret. Unfortunately, we don't have any concrete suggestions on how to accomplish this. Even with the comment deadline extension, we found it impossible to develop the substantial response we had desired.
- 3 We support the retention or designation of many of the ACEC's mentioned in the Draft document and feel such designation is an important management tool which is so far much underutilized. In particular, we would like to see the following areas protected via ACEC designation:
 1. Oregon Buttes
 2. Sand Dunes
 3. White Mountain Petroglyphs
 4. Cedar Canyon
 5. Natural Corrals
 6. Red Creek

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7. Pine Spring and Expansion
8. Steamboat Mountain
9. Sage Creek
10. Current Creek
11. Monument Valley
12. Any and all other biologically special areas such as those containing candidate endangered species, special species, etc.
- 4 In general, all of the above mentioned areas should be off limits to all developments, including oil/gas exploration and development, mining, and motorized vehicle use. The same is true for all Wilderness Study Areas, regardless of the final Wilderness status of the particular area.
- 5 We request that no mineral activities be allowed to take place in crucial or critical wildlife habitat.
- 6 We also believe that the area deserves much better protection of visual quality, especially for ACEC and WSA's, but other areas as well.
- 7 We don't believe predator control, whether by ADC or other agency or individuals, should be allowed on any public lands. Please put a stop to this now.
- 8 The use of motorized vehicles should be managed as strictly as possible, with restrictions to everything except designated roads.
- 9 We have particular concerns about the Forest Resource Management concepts. For example, on page 18, you state that the forest lands "need to be managed to maintain a healthy, vigorous forest ecosystem." This is a patently false statement and is totally unsupportable. The forests on this planet evolved without man's intervention and it is obvious that they do not need to be managed. Please include in the Final document an alternative which completely eliminates timber harvesting.
- 10 We have many other concerns that we are not able to convey due to time constraints and the complexity of the document. To help with this, I have included our comments on the Shirley Mtn. Forest Management Plan Revision we recently submitted to the Great Divide Resource Area of the Rawlins District. Please include these comments in the public record as well. Many of the concerns are similar and we request you consider them in your decision. Of course, that portion of the comments pertaining to the need for a full EIS can be disregarded.

Sincerely,

Jeff Kessler for Friends of the Bow and the Native Ecosystems Council

Comment Responses

98-1 See response to comment 94-2.

98-2 The RMP Final EIS has been revised to provide an easier format to follow.

98-3 See responses to comments 94-5 and 97-6. The plan does call for designation of the candidate plant species to be ACECs and provides protection against any surface disturbance activity.

98-4 See response to comment 96-2.

98-5 No critical wildlife habitat has been identified for the resource area. Surface disturbing or disrupting activities (such as those related with mineral activities) in crucial wildlife habitats have restrictive stipulations attached to protect habitat requirements for wildlife. See response to comment 94-18.

98-6 We agree. We have re-evaluated our Visual Resource Management (VRM) classifications over the planning area. The scenic quality of an area was integrated with existing and potential developments to more accurately reflect land management scenarios for the next 10 to 20 years. For example, the Red Desert VRM classification of Class IV was upgraded to Class III to protect the scenic values of this area while still allowing for mineral and utility development to take place. The visual management class for the oil fields located along the Green River were changed from Class II to Class III to lessen the burden of unnecessary mitigation of impacts to visual values. This change is consistent with the BLM-Pinedale Resource Area VRM classification along the river where there are active oil fields.

98-7 See response to comment 94-15.

98-8 See response to comment 94-16.

98-9 There are differing philosophies regarding forests and their management on public lands. Forests which occupy designated "wilderness areas" are allowed to exist virtually unmanaged. However, under a multiple use management directive, the forests on BLM-administered lands must be managed in response to many different needs, for example: conservation of forest biodiversity, the public (wood products

Comment Responses

and recreation), wildlife (plants and animals), livestock grazing, soil, watershed and air quality protection, and minerals extraction.

98-10 The only comments that I am able to address concern the Green River RMP. Your comments on the Great Divide RMP cannot be addressed here. That plan has been signed and is now being implemented.

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(transcribed and typed for readability)

February 24, 1993

Renee Dana, Team Leader
Rock Springs BLM District Office
P.O. Box 1869
Rock Springs, WY 82902

Dear Renee Dana:

1 This is to urge that the BLM to adopt Alternative C with the enclosed modification recommended by the Sierra Club.

Thank you.

Sincerely,

/s/ Marvin Friedenberg, MD.

99-1 See responses to comments 94-2 and 94-7.

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The Red Desert: Meaningful, permanent protection for the Red Desert Area is essential. The only way to ensure this area does not become a victim to the pressures of development is through the permanent protection of Congressional legislation. The BLM should recommend designation of the Red Desert area as a National Conservation Area to protect the breathtaking beauty of this national treasure. Until congressional protection occurs, the BLM should manage the area for protection, not production.

2 Wild and Scenic Rivers: All rivers found to be eligible should be recommended by the BLM for inclusion in the National Wild and Scenic River System: Beef Steer Creek, Big Sandy River, Currant Creek West Fork, Currant Creek, Canyon Creek, June Creek, North Fork of Bear Creek, Pacific Creek, Red Creek, Little Red Creek and Sweetwater River and Green River.

3 Off Road Vehicles (ORVs): ORV use has wrecked environmental havoc over much of the Green River Resource Area. ORV use has devastated soil, wildlife and riparian areas throughout the area. Alternative C must contain an uncompromising enforcement plan to ensure that such destruction will stop. ORVs must be restricted to designated roads throughout the Resource Area to protect the natural resources.

4 Predator Control: BLM must prohibit use of the controversial sodium cyanide guns, also known as M-44s. Aerial shooting and random poisoning must also be discontinued.

5 Areas of Critical Environmental Concern (ACECs): ACEC designation provides extra protection for areas of special and unique natural resources. The BLM should maintain existing ACECs and designate all ACECs proposed in the draft RMP: South Pass, Steamboat Mountain, Pine Spring Expansion, Sage Creek, Currant Creek and all locations where rare plants may be found.

6 Monument Valley/Adobe Town though not proposed by the BLM, should be granted ACEC status. The amazing hoodoos, badlands and canyons of this area must be protected from further degradation.

7 All Special Management Areas, crucial wildlife range, aquatic and riparian areas, areas containing sensitive, threatened, or endangered or historic, prehistoric and cultural resources should be off limits to mineral, oil and gas leasing, exploration and development. ORV use should be prohibited in these areas.

Comment Responses

99-2 See response to comment 95-13.

99-3 See response to comment 94-14.

99-4 See response to comment 94-15.

99-5 See response to comment 94-5.

99-6 See response to comment 97-6.

99-7 Thank you for your recommendation for land use management and advice for special management area administration. This advice was considered, along with all other public input provided, when selecting a proposed resource management plan. This proposed plan seeks a balance between protection of the natural environment and production or commodity uses. In addition, this proposed plan applies restrictions to proposed special management areas to protect their identified critical values.

99

RED DESERT

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LAND
OR
WASTE-
LAND?



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106

(transcribed and typed for readability)

Feb. 26,

1993

Rock Springs BLM
P.O. Box 1869
Rock Springs, Wyo 82902

Hello:

1 I want to voice my concern for thoughtful use of the Red Desert area that the BLM is considering for mineral leasing.

There are already more than enough roads crisscrossing the entire area. For those of us who spend time out there the geographic forms are very special. I also feel that the drainages should remain free flowing. Please do not overlook the special qualities of this wonderful part of Wyoming.

Sincerely,

/s/ Martha Thompson

Comment Responses

106-1 We appreciate your comments on the Red Desert and agree that any type of mineral development needs to take into careful consideration the design of roads or other disturbance to protect the qualities of the area.

107

February 24, 1993

Rock Springs, BLM District Office
Attn: Renee Dana, Team Leader
P.O. Box 1869
Rock Springs, WY 82902

Dear Ms. Dana,

I am writing to you to comment on the recently released draft of the Resource Management Plan. It is my understanding that the BLM has serious intentions of allowing mineral, oil and gas leasing on the majority of the Green River Resource Area.

1 Please consider adopting Alternative C of the draft and amending with some positive, protective changes - including the discontinuation of random poisoning and aerial shooting (this is appalling in and of itself!), restricting the use of all-terrain vehicles to designated roads or trails, limiting waterways to be leased by including them in the National Wild & Scenic River System, mandating that the beautiful Red Desert area be permanently protected, and advising that all Areas of Critical Environmental Concern be off limits to development.

All the these proposed changes I'm sure you recognize as obvious public concerns. The BLM must first take a stand: For long-term public land protection or short-term profit....

Are not these 'public' lands set aside for the public, to be preserved and enjoyed? In years to come the public will consist of our children and grandchildren. However, if changes, not only to your RMP draft but to your general direction of managerial goals, you may be the one to have to break the news to them that their public lands, as well as all the plant and animal life it supported, are no longer there were designated and destroyed by development. Once a particular habitat is destroyed it can never be fully replaced, furthermore, extinct plant and animal species will never return.

Progress and development are no longer synonymous. We must regress and go backward now that our past 'progress' has destroyed much of our natural wildlife and threatens it further. Today, progress, in the eyes of many, now refers to protection when it comes to wildlife. Please consider Alternative C of the BLM Resource Management Plan amended with the crucial, protective changes I have mentioned, in the name of progress as opposed to profit.

Thank you for your consideration on such an important matter.

Sincerely,

Karen Hitchens
Karen Hitchens

107-1 We appreciate your comments. The issue of predator control (random poisoning and aerial gunning) will not be addressed in this RMP. See response to comment 94-19. An Off-Road Vehicle (ORV) implementation plan will be developed after the RMP EIS is finalized. This designation process will evaluate the planning area road network system. Resource concerns and the needs of the public will be major factors in developing this plan. In the RMP, we identified where vehicles should be not be allowed or they should be restricted to designated roads and trails in areas such as sensitive watersheds, natural areas, and cultural sites. In the remainder of the area, we believe if vehicles travel on existing roads and trails, no undue resource damage would occur. We found river segments that were suitable to be included in the National Wild & Scenic River System. Areas of Critical Environmental Concern (ACECs) are areas that require special management attention to protect the important and relevant values found there. Development can take place in ACECs as long as the relevant and important values are not damaged.

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Renee Dane, BLM
P.O. Box 1869
Rock Springs, Wyoming 82902
Ms. Dane,

- 1 I am writing regarding the Draft Resource Management Plan for the Green River Resource Area. I support Alternative C with the retention of ACEC's; Cedar Canyon, Natural Corrals, Pine Spring, Red Creek, Petroglyphs, Oregon Butts and Sand Dunes. Additionally, I support the proposed new ACEC's; Sage Creek, Currant Creek, Pine Spring Expansion, Steamboat Mountain and South Pass Historic Landscape, including all candidate plant species ACEC's.
- 2 I believe the Red Desert is a unique area, which should be managed as a Special Management Area. Under this management existing uses may continue, but wildlife, watersheds, scenic values and other important resources must be protected.
- 3 South Pass is one of the most historic areas in the west. The area should be off limits to all major utility corridors, roads, right-of-ways, coal mining, oil and gas leasing and development should be prohibited. ORV use should be restricted to existing roads and trails.
- 4 The desert elk herd and its habitat should be protected, especially in the Steamboat Mountain area.
- 5 The Monument Valley Area should be designated an ACEC area and mineral leasing and mining should not occur in this area.

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- 6 The Wilderness characteristics of the Wilderness study areas should be protected and in the event these areas are not classified wilderness, they should be designated ACEC's..
- 7 I'm especially concerned about possible pits and industrial waste ponds. Reasonable cost technology exists to clean those ponds with a newly developed centrifuge process.(Call Casper branch of Small Business Economic Development Centers.) Or, at the very least, bird proof netting should be placed over these ponds.
- 8 I support the acquisition, as proposed in Alternative C, of 5120 acres, for watershed protection in the Red Desert.
- 9 I oppose the use of M-44s or sodium cyanide guns for predator control. These devices kill indiscriminately. No poisons or deadly devices should be placed on public, multiple-use lands. On the other hand, ranchers should be allowed to shoot animals preying on their livestock.

Sincerely,

Barbara Parsons

Comment Responses

129-1 See response to comment 94-5.

129-2 The interdisciplinary team did not identify relevant values that would warrant special designation of the Red Desert. There was agreement that the special value of the Red Desert was its vastness and open space. As a result, the plan specifies the need to protect these values and special emphasis will be placed on protecting these values.

129-3 See response to comment 97-4.

129-4 To protect crucial and unique habitats, the plan proposes the establishment of the Steamboat Mountain ACEC.

129-5 The RMP Final EIS does not recommend designation of Monument Valley as an ACEC at this time. Any mines or development of mineral leases must address how this proposal will protect the resource values in the area. Sufficient resource information is lacking for designating Monument Valley as an ACEC. Further resource inventories are needed to determine its significance to natural resource values.

129-6 See response to comment 94-3.

129-7 A number of exemptions have been given by Federal environmental laws to particular wastes generated by the oil/gas industry during exploration, development, or production. This includes wastes that can be legally accumulated and left behind in waste pits (reserve pits, production pits, etc.). However, such wastes may be physically harmful to the environment when released from a pit and thereby pose an environmental threat. At such times, appropriate response and cleanup measures are required regardless of a particular waste's exempt status. Companies are required to take actions to prevent birds from entering pits. Netting is one means used to achieve this objective.

129-8 Thank you for your comment.

129-9 See response to comment 94-15.

130

ROBERT S. YOUNG, JR., M.D.

March 4, 1993

Ms. Renee Dana, Team Leader
Rock Springs BLM District Office
P.O. Box 1869
Rock Springs WY 82902

Dear Ms. Dana:

- 1 I have just become aware of the possibility that the BLM may allow mineral, oil and gas leasing on over 90% of the land in the Green River Resource Area. ORV use and predator control in this area have already made a mockery of the multiple use concept of federal land. Opening this land to indiscriminate use by the extraction industries is a sad commentary on your position as a steward of this land for all the people, not just special interests. Resource protection must be your number one goal when allocating leases to extraction industries. The track record of mineral, oil and gas producers is dismal at best when it comes to protecting the land, its wildlife and the human beings that live on the land.
- 2 The current RMP which you appear to prefer is a blatant slap in the face to those of us who trust you to manage this land to the benefit of everyone and not just a few special interests. Alternative C in the Draft RMP represents the only semblance of truly caring for this land and even this needs modifications. Permanent protection of the Red Desert by law must be the cornerstone for preservation of the area. All rivers and riparian areas need protection from the extraction industries to maintain their health as ecosystems and be pollution-free. Even "a little pollution" is not acceptable. ORV'S must be restricted to designated areas. There are cultural, prehistoric, historic, and other sensitive areas here that have not even yet been defined, and to allow uncontrolled leasing and exploration for the ~~for the~~ greed of a few would be a travesty. The need for oil, gas and minerals is obvious at this time, but must be put in perspective and not dominant the thinking of people like yourself who is just as responsible to me as you are to Triton and Exxon.

Thank you,

Robert S. Young, Jr., M.D.

Comment Responses

- 130-1** The BLM does not allow "indiscriminate" use of the public lands for any use. To protect valuable resources, stipulations are applied to the land available for oil and gas leasing.
- 130-2** See response to comment 94-2. Permanent protection of the Red Desert would be a Congressional action, not an action covered by the RMP. The RMP provides for a 500-foot "buffer" from the edge of riparian zones, wetlands, and 100-year floodplains within which there will generally be no surface disturbance. Exceptions to this will be determined on a case-by-case basis and then will only be allowed with special mitigating measures to protect the resource. The 1872 mining law doesn't allow us as much leeway in the way of protective measures, however, when it comes to locatable minerals.

There are restrictions for Off-Road Vehicles (ORVs) in this plan including recommendations to close areas to vehicle use. The only "open" area for vehicle free play is the 10,500-acre Sand Dune ORV area. All other vehicle travel is either limited to existing or designated roads and trails. An Off-Road Vehicle (ORV) implementation plan needs to be developed for the Green River Resource Area after finalization of the RMP. At the activity level phase, more site specific analysis will be done to determine if additional areas should be closed or limited to "designated" roads.

LEONARD CARLMAN

131

April 7, 1993

Renee Dana, Team Leader
Bureau of Land Management
Green River Resource Area
P.O. Box 1869
Rock Springs, WY 82920

Re: BLM Draft Resource Management Plan and Environmental Impact Statement for the Green River Resource Area

Dear Ms. Dana,

Thank you for this opportunity to comment on the Draft Plan and DEIS. The Red Desert is a special place in America; it deserves good planning and strong protection. I have used the area for recreation and ecological study since 1978, and look forward to many more years of use.

- 1 I encourage you to pursue Alternative C; it is the only one which offers any meaningful protection for the fragile resources of the Red Desert. I support retention of the following Areas of Critical Environmental Concern (ACECs): Oregon Buttes, Sand Dunes, White Mountain Petroglyphs, Cedar Canyon, Natural Corals, Red Creek, and Pine Spring. In addition, these areas should be designated as ACECs: South Pass Historic Landscape, Steamboat Mountain, Pine Spring Expansion, Sage Creek, Currant Creek, and all ESA candidate plant species ACECs.
- 2 I especially encourage you to protect all Wilderness Study Areas through management which will cause their wilderness eligibility to be retained until Wyoming gets a reasonable set of delegates to the U.S. Congress. These Study Areas have been wild for their entire history; with a little patience, we can take steps to ensure that their entire future will also be free and wild. But hasty disposal of this option now will be an irretrievable loss to current and future generations. I support the use of NSO stipulations in all areas which are critical to native wildlife; humans are more adaptable than most other animals, and I am confident modern civilization will not crumble even if we decide to live in harmony with nature. The oil companies, off-road enthusiasts and others of that ilk would have you believe otherwise, but they are wrong.
- 3 As for the use of sodium-cyanide guns for predator control, indiscriminate killing by these things is a violation of my land ethic, and an ultimately ineffective waste of resources. Why do it? I support the designation of specific travel routes, and a general prohibition on off-road vehicular travel. I do believe that people need the freedom to roam about at will, and can think of no better way to do this than with the use of my feet. The fragility of desert soil and plant systems is so well documented as to make the argument for their protection from vehicular destruction beyond question.
- 4 One of the Red Desert area's most powerful attributes is its grand, sweeping visual beauty. Class II visual quality designations should be used in all ACECs, and Class I must be applied to all WSAs and potential wild and scenic river corridors. Even the most generous and forgiving eye cannot help but be offended by the excessive roads and power transmission lines already visible; there is no good reason why we should leave an ever uglier planet to our posterity, and the Red Desert is as good a place as any for us to say enough is enough.

I look forward to learning the results of your planning effort, and thank you again,

- 131-1** See responses to comments 94-2 and 94-5.

- 131-2** We agree. BLM is mandated by under Section 603 (c) of the Federal Land Policy and Management Act (FLPMA) to manage Wilderness Study Areas (WSAs) in a manner so as "not to impair the suitability of such areas for preservation as wilderness."

- 131-3** See responses to comments 94-15 and 130-2.

- 131-4** Most of the ACECs have a VRM Class II classification. The others, that are not a VRM Class II, lack the scenic quality and have some developments in them. When Congress designates any of the WSAs as wilderness, the VRM classification will be upgraded to Class I. Both of the "suitable" Wild & Scenic Rivers are in a VRM Class II area. They may be upgraded to Class I if Congress designates them. We have upgraded the Red Desert to VRM Class III to protect the scenic quality, but still allow mineral and utility development.

Rene Dana, Team Leader
Bureau of Land Management
P.O. Box 1869
Rock Springs, WY 82902

Dear Rene Dana,

I am writing on behalf of my husband and myself in regard to the Draft Resource Management Plan and Environmental Impact Statement for the Green River Resource Area. I hope I am not too late. My husband and I, much like anyone else, lead busy lives. Although responding to this plan is critically important, finding time to write is not an easy thing. To my great dismay, one must write a seemingly endless stream of letters if one is to make any attempt whatsoever to help guard our state and nation against environmental destruction.

.....I wouldn't characterize either of us as rabid environmentalists, yet Wyoming's wilderness and wildlife are a very big part of why we choose to live and work in Wyoming. Why else would a person put up with the weather, lack of cultural opportunity and relatively low wages?

My husband and I understand that the BLM's mandate is to administer the lands under its jurisdiction for multiple use, yet all too often it seems as though business interests win out at the expense of the public, the rightful owners. Unfortunately "multiple use" too often means unrestrained abuse: grazing, mining, off road vehicle traffic etc.

So what do we want?

- Please adopt Alternative C
- Please retain these Areas of Critical Environmental Concern in Alternative C: Sand Dunes, Oregon Buttes, White Mountain Petroglyphs, Natural Corals, Cedar Canyon, Red Creek and Pine Spring.
- Adopt the following as new Areas of Critical Environmental Concern: South Pass Historic Landscape, Steamboat Mountain, Pine Spring

Expansion, Sage Creek, Currant Creek and all candidate plant species ACECs.

- Please designate the Red Desert as a Special Management Area and manage it to protect it.
- Please designate all Wilderness Study Areas not selected by Congress as ACECs.
- 1 - Crucial big game habitat must be placed off-limits to all surface disturbing activities during critical periods. Oil and gas leases must contain NSO stipulations.
- The birds in the Pacific Flyway need protection by means of netting or covers on open pits, ponds, or tanks with toxic or hazardous materials.
- 2 - Visual resources, either existing or potential, should be protected by Class II quality designations. In addition, wild and scenic rivers need Class I visual quality designations.
- 3 - The sale of public lands for radioactive, nuclear, toxic, or hazardous waste storage or disposal facilities should be absolutely prohibited.
- The Altamont Pipeline is a perfect example of why the BLM needs to adopt stringent and meaningful standards for protecting cultural and historic sites, sensitive areas, ACECs, and wildlife. The entire South Pass Historic Landscape needs to be off-limits to all utility lines.
- Encourage non-lethal, non-toxic predator control methods. M-44s must be utterly prohibited.

Clearly I could go on... There are so few places like Wyoming left. When are people going to wake up and realize that if we allow this state to be ruined, the entire nation will have lost out. We personally value what this state has to offer. We use the BLM and Forest Service lands regularly; they mean a lot to us. If we allow Wyoming to be destroyed, where do we go? Please protect one of our nation's last semi-wild areas. Think towards the future, not about a very few business people who will likely move on once they have gotten what they were after. The responsibility of guarding the land is an awesome chore...please don't give up.

Thank you for your efforts,

Mal Miller
Mal Miller

Maggie Miller
Maggie Miller

April 18, 1993

132-1 It would be impractical to attach NSO stipulations to leasable minerals on all crucial wildlife habitats within the Resource Area. The NSO stipulation is applied to leases in which no reasonable mitigation or protection may be achieved through standard stipulations.

132-2 The "suitable" Wild & Scenic River is in a VRM Class II area. This may be upgraded to Class I if Congress designates it as part of the National Wild and Scenic River System.

132-3 See response to comment 94-15. Public lands must be disposed of in a lands transfer process prior to storage of radioactive, toxic, or other hazardous wastes. However, disposal of public lands for storage of such hazardous materials is not prohibited under federal law.

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Carl M. Detwyler

April 16, 1993

Bureau of Land Management
PO Box 1869
Rock Springs, WY 82902

Dear Sirs:

- 1 As a Wyoming resident who has camped throughout the Red Desert area and enjoyed the undeveloped nature of the area, I am disturbed about the possible exploitation of the area for gas and mineral development. I believe the real value of the area lies in its preservation as a remnant of the undeveloped west. The Pony Express stations, Oregon Trail, and abandoned ranches are a vivid reminder of our nations history, and should be preserved.

The construction of roads to mines and wells will cause permanent damage to a fragile environment, for short term gains. I strongly support the adoption of Alternative C, and the designation of Steamboat Mountain as an 'Area of Critical Environmental Concern'.

Sincerely,

Carl M. Detwyler
Carl M. Detwyler

155-1 See responses to comments 94-2 and 94-5. No utility corridors are planned for designation within the resource area. The Greater Sand Dunes is proposed as an avoidance area under all alternatives.

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April 19, 1993

Renee Dana
Team Leader
BLM
PO Box 1869
Rock Springs, 82902

Ms. Dana:

At this time, I would like to submit my comments regarding the Draft Resource Management Plan and Environmental Impact Statement for the Green River Resource Area. Having visited many of the areas that are covered in the BLM's proposal, I strongly feel that protection needs to be provided for this area. It is my understanding that of the 3.5 million acres in this area, the current proposal is to authorize oil and gas leasing and mineral development on almost 3.2 million acres. That leaves only 4% left off- limits to industrial development. I urge the BLM to reconsider. This is an area that is too important to be destroyed by industrial development.

Following are more specific points for consideration:

-There are many ACEC's in this region and these must be retained. I support the retention of the following ACEC's in Alternative C: Oregon Buttes, White Mtn. Petroglyphs, Cedar Canyon, Natural Corals, Red Creek, and Pine Spring.

- 1 Also, the Sand Dunes area is important. The entire 41,640 acre ACEC should be closed to all forms of mineral development, including coal, oil and gas, sodium and hard rock minerals. This ACEC should be off-limits to additional utility corridors.

Additionally, I believe there are other areas that should be considered for new ACEC's.

South Pass Historic Landscape: The BLM's proposed alternative does not adequately protect this culturally and environmentally unique area. The entire area should not be closed to any new major utility corridors, roads and right-of-ways. Also, coal mining, oil and gas leasing and development should be prohibited, locatable mineral

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withdrawals should be pursued, and ORV use should be restricted to designated roads and trails. Finally, livestock grazing should be authorized only when there is sufficient protection of wildlife, watershed and other resources.

Steamboat Mtn: This area should be designated and all coal and hard rock mineral mining, oil and gas development and other surface disturbing activities should be prohibited.

Monument Valley should be designated as an ACEC as it is suggested in Alternative C, but no mineral leasing and mining should be allowed to occur.

Also, Tri-state Monument, and Pine Springs areas should be considered for ACEC designation.

-Along with ACEC's, the BLM should adequately protect areas that are designated as Wilderness Study Areas. I urge the BLM to protect all WSA's, even those that may be dropped from consideration by Congress.

- 2 -The Green River resource area provides habitat for abundant wildlife. All crucial habitat should be place off limits to all surface disturbing activities during critical periods. Also, surface coal and hard rock mineral mines should be prohibited in these areas and mineral withdrawals should be pursued. For oil and gas leases, these should contain no surface occupancy stipulations.
- 3 -The BLM's preferred alternative does by no means protect the visual quality of this area. The visual resources in all existing, proposed, and potential ACEC's should be protected by Class II visual quality designations.
- 4 -For utility and transportation systems, the BLM's definition of "avoidance areas" is neither clear nor specific. The BLM should adopt stringent and meaningful standards for the protection of cultural and historic sites, ACEC's and wildlife. All ACEC's, lands within 1 mile of historic trails and sites and recreation areas should be designated right of way exclusion areas. Also, due to the importance of the South Pass Historic Landscape, the entire 87,580 acres should be off limits to all utility lines.

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-In regards to land acquisitions, I support the BLM's preferred alternative with the following changes: The BLM should choose Alternative C with respect to state land purchases. Also, the BLM should work to acquire 960 acres for watershed protection in the Red Desert. Finally, I urge the BLM to prohibit any sale of public lands for storage or disposal facilities for radioactive, nuclear, toxic or hazardous wastes.

-Of the alternative, I support Alternative C for its proposed management for recreation, and for its establishment of "special recreation management area" of 265,188 acres. Along with recreation comes ORV's, motorcycles and ATV's. The BLM should restrict motorized vehicle use to designated roads and trails, not merely existing roads and trails. There is a huge difference.

I hope that the BLM will be responsive to the above suggestions for the Draft Resource Management Plan and EIS for the Green River Resource Area. Thank you.

Sincerely,

Dot Vali

Dot Vali

Comment Responses

155-2 Application of special stipulations to leasable minerals is required in crucial habitats. These include big game winter ranges, parturition areas, sage grouse leks, raptor habitats, trout streams, wetlands, habitats for colonial nesting birds, and a variety of other unique wildlife habitat. Under the 1872 Mining Law, hard rock mining is not regulated the same as leasable minerals; therefore, we exert little environmental control to protect wildlife habitat on mining claims or during exploration.

155-3 BLM has re-evaluated the VRM classifications over the planning area. Some changes were made to integrate the scenic quality with existing and potential developments of an area to more accurately reflect land management scenarios for the next 10 to 20 years. Most ACECs are a VRM Class II.

155-4 The definition of an exclusion area is that no rights-of-way will be allowed except when mandated by law. This is very restrictive and we believe should be applied to only small significant sites. It is recommended in the RMP Final EIS that a portion of South Pass be an exclusion area.

(transcribed and typed for readability)

Dear Renee Dana,

This letter is in support of protection from resource and extraction damage to the Red Desert ecosystem. I believe the Red Desert is unique and should be a national conservation area.

I support Alternative "C" for Oregon Buttes, Sand Dunes, White Mountain Petroglyphs, Cedar Canyon, Natural Corals, Red Creek, and Pine Spring.

- 1 I urge the B.L.M. to study the effect of overgrazing by livestock and to prevent unregulated off road vehicles from using roads unless marked for use by B.L.M.

In short I urge the B.L.M. to protect this last, vast, beautiful piece of public land for future generations.

Sincerely,

/s/ Ken Meade

Comment Responses

- 160-1 The Green River Resource Area is currently conducting monitoring studies to determine proper stocking level for the I category allotments. If management objectives are not being met because of overgrazing, then the stocking level for an allotment will be adjusted. Also see response to comment 130-5.

17 March 1993

Renee Dana
BLM, Rock Springs District Office
P.O. Box 1869
Rock Springs, WY 82902

Dear Ms. Dana;

I'm writing to you about the draft Resource Management Plan (RMP) for the Green River Resource Areas. I am discouraged by the direction the BLM appears to want to take in managing the public lands it administers in southwestern Wyoming. This area of our state contains many unique natural resources that should receive greater protection than is proposed under the preferred alternative of the draft RMP.

I have spent time in several of the areas that were evaluated for ACEC designation, including Steamboat Mountain, Sage Creek, Currant Creek and South Pass. These areas do truly contain unique and special features, and I urge the BLM to protect them with ACEC designations. Another favorite place of mine is Adobe Town, which also certainly qualifies for ACEC designation.

- 1 One of the biggest problems I see in the Red Desert and other public land areas in southwestern Wyoming is unregulated use of all terrain and off road vehicles (ATVs and ORVs). I recognize that it's difficult to control this type of recreational abuse of public lands, but ignoring the problem will only allow it to grow worse. We must find a way to address it. I suggest a program of strict enforcement of regulations that restrict ATVs and ORVs to designated roads, combined with a major public education program about the damage caused by careless use of these vehicles.

- 2 I would like to see more emphasis given to reserving areas of special importance from extractive minerals and oil and gas leasing. In this dry part of our state, riparian areas are of extreme importance to wildlife, and should be fully protected (with a large buffer zone) from development. Similarly, crucial wildlife range, including wintering areas, birthing areas, and breeding areas, should be protected from development. I do not favor permitting minerals or oil and gas leasing with restrictive stipulations, because federal agencies have a long record of reducing, removing or not enforcing such stipulations on past leases. I see no reason to trust the agencies to behave differently in the future.

For several years, conservationists across Wyoming have promoted designation of the Red Desert as a National Conservation

- 161-1 We agree that educating the public is essential to gain compliance for Off-Road Vehicle use and other BLM programs. We currently provide presence and information to the public during holiday weekends and hunting season to gain visitor compliance. However, enforcement of regulations is beyond the scope of this RMP EIS.

- 161-2 The RMP provides for a 500-foot "buffer" from the edge of riparian zones, wetlands, and 100-year floodplains within which there will generally be no surface disturbance. Exceptions to this will be determined on a case-by-case basis and then will only be allowed with special mitigating measures to protect the resource. In our past experience, this measure has provided adequate protection for riparian/wetland areas. This is, however, a minimum guideline and can be made larger as needed. The 1872 mining law doesn't allow us as much leeway in the way of protective measures, however, when it comes to locatable minerals. Also see response to comment 94-2.

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Area. I fully support the idea, and request that the BLM recommend the designation. The trend among natural resource managers is toward management for biodiversity on a landscape level, and a Red Desert National Conservation Area would provide a remarkable opportunity to manage the ecosystem at a regional scale.

I cannot say that I fully support any of the alternatives presented in the draft RMP, because they all fall short of my hopes for wise management of the Resource Area. If Alternative C were modified to add additional protection for the unique resources of the area, it would be acceptable.

Thanks for the opportunity to comment on the draft RMP.

Sincerely,

Connie Wilbert

Connie Wilbert

Renee Dana, Team Leader
BLM District Office
P.O. Box 1869
Rock Springs, WY 82902

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Michael Cockrell

March 7, 1993

re: Draft RMP

I write in order to influence the outcome of the RMP process, and to make comments that should be considered during all BLM planning phases, perhaps useful at all levels of decision-making.

The preferred alternative maximizes commodity production at the expense of many other resources and values; this is unacceptable. I wish public lands to be managed as to protect these other values. I request the BLM recommend the Red Desert as a National Conservation Area, and manage the area so as not to impair or damage the qualities and values found there.

Recreation has and continues to grow in importance from an economic perspective; recreation will thus continue to demand greater attention from land management agencies. I believe it is the place for agencies to shape the kinds of recreational demands that evolve over time; this through public education programs at all levels. As an example, many land managers will tell us they are under pressure to "improve" local camping and other recreational facilities, i.e. flush toilets, electrical supply, etc. To do so with predictably limited funds would mean other programs and management activities would suffer the monetary loss; a shift in usage of funds would need to occur.

However, if the public became more aware of the negative impacts necessary to provide these additional services, demand for same would logically be reduced. The negatives in this example might be additional habitat fragmentation due to a new or enlarged utility corridor; or loss of or damage to riparian habitat due to installation of a leach field to serve the modern plumbing newly installed in a public campground; or damaged flora and soil stability from much-increased visitorship to a particular area; or the increase in fees to pay for some of the improvements.

Public education on the values of wildlife, of intact, functioning ecosystems and the need to preserve biological diversity may serve to stem the demand for ever-increasing access and services. Federal land management agencies have largely failed to take up this cause; they are at the whims of a fickle and consumption-obsessed public, which is largely ignorant of the multiple-use issues and the conflicts managers face. I advocate a pro-
active rather than a reactive role for the BLM and other agencies.

I insist the BLM emphasize recreation and ecological health, which implies landscape-level management policies; protection of WSAs, ACECs and other areas with special qualities; here, I request the BLM maintain existing ACECs, and commend the BLM for proposing additional ACECs. I also request that the BLM recommend Monument Valley/Adobe Town areas for ACEC status.

I insist the BLM place emphasis on reclamation of riparian habitat and

162-1 The effects of road construction are analyzed at the site specific level and appropriate mitigation and reclamation measures applied.

We disagree that all the "eligible" rivers should be included into the National Wild and Scenic River System (NWSRS). Many are "unsuitable" using the screening factors that have to be considered when recommending a river into the NWSRS. We agree that our job is to consider the "long-term sustainability" of the public lands we manage under the **Multiple-Use and Sustain Yield** mandate. An Off-Road Vehicle (ORV) implementation plan will be developed after the RMP EIS is finalized. This designation process will evaluate the planning area road network system. Resource concerns and the needs of the public will be major factors in developing this plan. In the RMP, we identified where vehicles should be not be allowed or they should be restricted to designated roads and trails in areas such as sensitive watersheds, natural areas, and cultural sites. In the remainder of the area, we believe if vehicles travel on existing roads and trails, no undue resource damage would occur.

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1 consideration of rivers for wild and scenic designation. All river segments found to be eligible should be recommended for Wild and Scenic designation.

The ideal of minimizing impacts on all resources makes sense, and should be applied to all activities on public lands. The less impact each user has on the land and resources, the better for the land itself, the better for the public, for business, for land managers and the better for the nation and planet in general. Attaching proper importance to long-term sustainability of all resources must be considered part of public lands management.

I insist the BLM oppose any and all new road construction. Hundreds of thousands of miles of roads already exist on public lands throughout the U.S., most in the west. The existence of this many miles of roads has many known negative effects, and perhaps many we know little about. Among these are habitat fragmentation with subsequent disruption of migration patterns, isolation of animal and plant populations which can result in genetic deterioration; invasion of exotic species; increased sedimentation of watersheds; radically altered hydrology; pollution of water, air and land; and unneeded, unplanned development due to new corridors and access. A fairly common problem in land management agencies is their lack of ability to maintain the roads already in existence. Why build more roads, when there are so many negatives associated with same?

As a frequent visitor of public lands in the west, I invariably see damage caused by vehicular traffic, usually by ORVs. Off road vehicles must be limited in where and when they are allowed to go; the damage done to fragile soils and plantlife, disruption and predictable poaching of wildlife, inevitable pollution from the oils, fuels and exhaust, and the predictable conflict with hikers and other visitors makes it imperative that controls be placed upon this activity on public lands. Much damage has already taken place in this region, and I insist that ORVs be restricted to designated roads, and support BLM closures to protect any and all other resources. ORV use destroys much of the qualities I seek when I visit (and spend money) in Wyoming!

The BLM should refuse to take part in or to condone activities conducted by ADC; livestock losses are not great enough to warrant the continuation of the slaughter of the west's predators, nor is the economic contribution by grazing lease-holders significant enough to warrant the sacrifice of non-target species. I insist that the BLM prohibit the use of M-44s, random poisoning and aerial gunning as means of reducing livestock predation.

I request that the BLM protect and promote low-impact recreational opportunities over less primitive, motorized uses of public lands.

Very Sincerely,



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**GREEN RIVER RESOURCE AREA
RESOURCE MANAGEMENT PLAN,
DRAFT ENVIRONMENTAL IMPACT STATEMENT**

Comments written by,
Sweetwater County Wildlife Association
PO Box 1233
Rock Springs, Wyoming 82902

Submitted,
April 19, 1993

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INTRODUCTION

The Sweetwater County Wildlife Association (SCWA) generally finds the document offering excellent options and information about natural resources in our area.

As a representative group of hunters, anglers, and wildlife enthusiasts, the SCWA recommends implementing Alternative C for it offers the most protection to wildlife, wildlife habitat, riparian areas and wetlands, fisheries, and other natural resources in the Green River Resource Area (GRRRA).

The following pages offer suggestions and list our concerns over the different issues that were outlined in the Draft EIS. We would like to see the BLM prepare their management prescriptions for these problem areas through continued partnerships with the private sector.

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CANDIDATE SENSITIVE PLANT SPECIES MANAGEMENT

1 We are very pleased that the GRRRA is now considering special management objectives and actions for all Category 1 and Category 2 candidate plant species as described in the US Fish and Wildlife Notice of Review. We are fully supportive of designating Areas of Critical Environmental Concern (ACECs) for any Category 1 or 2 candidate plant species. The area should be closed to new mining claims, off-road vehicle travel, geophysical exploration activities, and any other adverse surface activities that could damage sensitive plant communities. Such activities include roads, pipelines, power lines, surface mining, and grazing.

Sensitive plants still under evaluation by the USFW should come under special care by the BLM until a designation can be done. Population biology studies and status reports reveal critical information for management prescriptions. We hope these tools will be implemented by the BLM as customary procedure.

Long term monitoring is beneficial in determining the primary components necessary to perpetuate a viable population in its natural habitat. We encourage the use of Habitat Management Plans and Recovery Management Plans.

We acknowledge that the list of candidate plants will change as data is updated and threats are removed thus allowing delisting.

2 Currently, we feel these plants have special concern in the Rock Springs District:

Scientific Name	WNDDDB Rank	USFW Status
Antennaria arcuata	G2S2	C2
Arabis pusilla	G1S1	C1
Artemisia biennis var. diffusa	G5T1S1	C2
Asclepias uncialis	G4SH	#
Astragalus drabelliformis	G2S2	C2*
Astragalus proimanthus	G1S1	C2
Cirsium aridum	G1S1	C2*
Descurainia torulosa	G1S1	C2*
Lesquerella macrocarpa	G2S2	C2*
Lesquerella paysonii	G2S2	C2*
Oryzopsis swallenii	G5S1	
Penstemon acaulis	G3S1	C2*
Phlox opalensis	G1S1	C2*
Physaria condesata	G2S2	C2*
Physaria dornii	G2S2	C2
Thelesperma caespitosum	G1S1	C2*
Thelesperma pubescens	G1S1	C2
Townsendia microcephala	G1S1	C2

*proposed 1992 change

#species is under speculation as to whether it is in Wyoming

171-1 Designating rare plant locations as ACECs is the first step in identifying the area as requiring special management. Site specific habitat management plans can then be created for each of the ACECs, taking into consideration special site-specific characteristics or habitat needs. All plant species designated as Category 1, 2, or 3 by the U.S. Fish and Wildlife Service are given special consideration and protection by BLM as standard operating procedure. Monitoring and survey needs are defined for each of these species, and conducted as the workforce and funds allow.

171-2 The Green River Resource Area provides special management for species that are categorized by the U.S. Fish and Wildlife Service as Candidates in Category 1, 2, or 3.

WILD AND SCENIC RIVERS

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- 3 SCWA supports GRRA's recommendation to Congress to designate 7 segments of Sweetwater River as Wild, Scenic, or Recreational. We also support protecting their natural values during the interim management until they are included into the National Wild and Scenic Rivers System.

AIR QUALITY

- 4 Since the BLM must not contribute to violations of pollution control regulations through their permitting authority, we ask that the BLM participate in the current air quality study being done by the DEQ in the Green River Basin. We would like to see testing and monitoring of these emissions:
- *particulates
 - *NOX's
 - *HF(from phosphate plants)
 - *SO₂

FOREST RESOURCE MANAGEMENT

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Here, we have some "clear-cut" suggestions:

- 5 We recommend the maximum size of clear cutting be 10 acres and not to exceed that.
- 6 In Alternative's A and B, the harvest levels approach 1,000,000 board feet annually. This can only be accomplished at the expense of other resources. Before an annual harvest target is proposed, we request a justification in terms of documentation defining long term requirements for sustainable yields of our forests and that this documentation include parallel criteria for wildlife resources.
- We cannot adequately comment on the actual board feet allowance in the GRRA without listed documentation in the RMP/EIS. Our tendency is to stick with the minimum 500,000 board feet in the Preferred Alternative until documentation is provided as to what number is actually is feasible.
- 7 We are concerned about streambank stability, erosion, reclamation standards, wildlife habitat, sustainable yields of the forest, and last but not least, how do our forests fit into global warming and the global carbon balance. Has GRRA considered this?
- 8 The replacement seedling time period requirement is lengthy and minimizes potential growth patterns. The time period should be 2 years instead of 5-15 years, and be rested from grazing. Has data been collected using scientific methods to determine what a sustainable yield is for timber vs woodland stands? Please provide such information in your EIS.

Comment Responses

171-3 Thank you for your comment.

171-4 See response to comment 94-13.

171-5 Perhaps a better criteria for setting the size for a clearcut unit is to consider the amount of hiding cover that remains for wildlife, the shape of the cutting unit as it relates to wildlife and silvicultural requirements of the tree species being harvested. The clearcut size should be kept small, but an arbitrary designation of 10 acres may not be the most beneficial in areas of insect-kill or mistletoe damage.

171-6 The 1,000,000 board feet amount indicates the maximum amount that could be cut annually according to forest inventory and growth and yield calculations. The calculations included all timber species, and there is very little market demand for some species. The Preferred Alternative recommends a harvest level of no more than 500,000 board feet.

The RMP also categorizes the way timber stands will be managed. The Wind River Front would be managed for commercial forest values to improve forest health and emphasize sustaining wildlife habitat requirements. Pine and Little Mountains would be managed primarily for other resource values (i.e., watershed, wildlife, and scenic values). The ability to harvest decadent and diseased trees should remain a management option.

Considering the market for some timber species and the remote location, along with the constraints placed on timber harvest to protect other resource values this sustained harvest will most likely never be cut. Records show very little green timber has been cut in past years.

171-7 There are standards and stipulations to protect wildlife, forest reproduction, and streams and to reduce soil erosion on any action that is initiated. As far as global effects, there is no data currently available reflecting global carbon balances and its relation to our small timber stands.

In general, we are encouraged by the BLM efforts to control use and abuse of hazardous materials and waste. We also support the objectives outlined in the Draft EIS.

- 9 We recognize the BLM's conviction to hold violators responsible for clean-up practices and strongly support your efforts. Does the BLM have clear actions stated in the HAZMAT policy for any violators of hazardous or toxic substance use and disposal?
- 10 Prior to selling or transferring public lands which have had hazardous materials on the premises, SCWA would request that the public get to comment with a full EIS to eliminate any possibility of endangering or contaminating our natural resources for future generations.

- 11 DISPOSAL: SCWA would like the BLM to provide a reason and description of each parcel of land included in the 13,000 acres for disposal around the Green River and Rock Springs area. Although it might be viewed by the BLM to be a general benefit for the public to acquire lands for community expansion and economic development through land exchanges, SCWA asks that you let the public decide that issue through public meetings and comment periods. An EIS is logical avenue.
- 12 ACQUISITIONS: We support the action to acquire approximately 22,000 acres by purchase/exchange or through cooperative agreement to support resource needs and promote natural resource management.
- WITHDRAWALS: SCWA supports withdrawing 161,354 acres for cultural/historical sites, the Greater Sand Dunes ACEC, the Steamboat Mountain ACEC, and the Tri-State ACEC. We applaud the efforts of the BLM to recognize, protect, and enhance the biological diversity of Southwest Wyoming.
- 13 ACCESS: The need for the citizens to gain access to public lands is an important issue, since the majority of land is public. We support the proposed access needs, but are curious as to the implementation schedule. Could this be provided in the EIS?

Comment Responses

171-8 It would be very difficult to have every denuded timber area fully stocked within 2 years even if the area was planted immediately after logging or a fire. When trees are planted, conditions at times are such that the seedlings do not survive. When the area is left to reestablish naturally, often the first two years will show very little reproduction, then within five to nine years reproduction will be so dense that the stand may need to be thinned to obtain optimum growth. Tree species, site conditions, and weather all affect how reproduction becomes established. The time period set in the RMP is to establish a fully stocked stand; this does not mean there is no reproduction established before this time period.

In the past, there has not been a problem with grazing animals destroying tree seedlings. If it became a problem, we would correct it. Fencing may not be the solution, especially if the damage was caused by wildlife. Woodland stands are not harvested on a commercial basis so sustainable yields for woodlands are not established. Sustainable yield is utilized for commercial timber harvest.

171-9 BLM is required to follow federal environmental laws and its own internal regulations regarding hazardous materials violations. These laws and regulations are too complex in detail to be listed in this document, but are on file in BLM offices.

171-10 See response to comment 94-15. In general, it is currently BLM policy not to dispose of public lands nor acquire lands which have had hazardous materials released on them. In certain instances where public interest is foreseen, BLM will publish information on public lands that are being acquired or disposed of in a land transfer process. Regulations involved in this process are too complex in detail to be listed in this document, but are on file in BLM offices. Information regarding all lands presently under consideration for sale or transfer can also be accessed at BLM offices.

171-11 The possible disposal parcels listed in the RMP were selected based upon previous expressions of interest and general knowledge of the area. There is no plan to immediately dispose of these parcels. Any disposal action requires the preparation of a detailed environmental assessment and the opportunity for public comment.

171-12 See response to comment 11-3.

171-13 The RMP identifies legal access to recreation areas and areas of critical environmental concern for acquisition. Legal access will guarantee the right of the public to visit and enjoy these areas. A schedule for implementation of the RMP will be developed after approval of the plan.

- 14** SCWA has been concerned about what kind and the amount of livestock grazing for almost fifty years in Sweetwater County. On page 136, it states, "authorized grazing use would not exceed the recognized active grazing preference 318,647 AUMs," under Livestock Grazing Management.

It has voted by the Board of Directors of the Sweetwater County Wildlife Association to make these requests of the BLM:

- 1) Reduce the maximum recognized active grazing preference to 186,000 AUMs.
- 2) Suspend all authorized AUMs from riparian management enclosures, so that the BLM can issue a willful trespass.
- 3) Riparian objectives be required in all AMPs regardless of category.
- 4) Do not allow any area to be grazed year round. As we stated earlier, plant communities need to be rested, this is a basic biological necessity.
- 5) The date must be written into the RMP as to when 75% of the streams will be in proper functioning condition, (PFC). A congressional directive passed in 1987 gave the Bureau ten years, that means 1997. This leaves four years to increase the quality from 25% to 75%!

Of the 79 grazing allotments, 34 have been designated I categories, (Improvement Category). This means 43% of the land status for grazing management needs improvements. If the GRRA is currently running 182,000 AUMs, how can it support 318,647 AUMs? Please provide data to prove this point and please disclose information documenting this possibility. Please provide information establishing past, current, and future carrying capacities for grazing, and trends in wildlife habitat in conjunction with the number of AUMs.

- 15** The issue of migratory birds being killed on evaporation ponds is an issue that needs immediate attention. At present only two plants are sending their tailings underground, Solvay and FMC, but they still have to evaporate the water. Continued monitoring on these ponds might be the only action necessary. The rest of the plants in the area, including Jim Bridger, pump their tailings into surface storage ponds. The USFW has suggested using a netting that is long lasting requiring little maintenance to prevent loss in population numbers. Is this something the BLM is looking into? Could this please be addressed in the EIS?
- 16** Can the GRRA survive the turf wars? Should we let natural gas exploration drill so close to the trona mines? We think not. The BLM, in their multiple use wisdom, attempting to squeeze every conceivable royalty dollar out of every parcel of land, leased the land to too many customers. The unfortunate consequence is that the now eager natural gas explorers want to drill wells 10,000-15,000 feet deep. If the casing of the well is compromised, a highly pressurized gas escapes. If this gas finds its way into the trona mine, an explosion is sure to occur. Therefore, the trona mines build a barrier pillar around the well to prevent mining induced stress on the casing, but this prevents the mines from mining their total ore reserve. The situation is not conducive to natural gas exploration any way you look at it.
- 17** Riparian habitat is scarce in the GRRA, therefore we request that NSO restrictions be implemented and upheld for wetland and riparian areas. We would like to see the BLM work more closely with the Wyoming Game and Fish in establishing Big Game winter range that might also fall under this category.

Comment Responses

171-14 1. To reduce the active grazing preference, the BLM must show through monitoring that resource objectives are not being met. If the resource objectives are not being met, reduction of active preference can be recommended and put into effect.

2. In the preferred alternative of the RMP, we are proposing to suspend all AUMs within enclosures. This would enable BLM to issue a willful trespass as no permittee would be authorized for use.

3. All AMPs in the Resource Area will have riparian objectives, although in the plan we will be focusing on the proper functioning condition of riparian areas and limiting use based on condition.

4. Although the Resource Area does have some allotments with year long grazing, it is common practice not to graze an area year long.

5. It is not realistic to meet the 1997 goal. It is, however, one of our priority management goals to meet the 75% riparian initiative as soon as possible. The RMP will focus BLM efforts on monitoring grazing use on riparian areas and proper functioning condition.

Information pertaining to use and monitoring data is on file in the Green River Resource Area office and available for public review.

171-15 Nearly all of the smaller open wastewater ponds and pits on public land are presently netted to prevent injury and loss to wildlife. Industrial plants with the larger ponds are working with the U.S. Fish and Wildlife Service in monitoring, recovering wildlife, and working toward solving the problem. The BLM is requiring all new applications for open pit discharge ponds to include a plan for netting or otherwise preventing wildlife entry.

171-16 See responses to comments letters 88 through 93.

171-17 In the Preferred Alternative, the NSO restriction is applied to riparian/wetland areas and 100-year floodplains. It was, however, incorrectly labeled in the tables and these will be corrected. Livestock aren't considered as a surface disturbing activity.

RECREATION RESOURCE MANAGEMENT

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- 18 We support the development of a greenbelt corridor along the Green River from the Fontenelle Dam to Flaming Gorge Reservoir.

We encourage and support the development of an extensive mountain bike trail system incorporated into the recreation management plans. We highly support the BLM, in conjunction with county recreation boards to establish a trail system connecting Rock Springs and Green River. Other sites include the Little Mountain-Firehole Canyon-Flaming Gorge area.

OFF-ROAD VEHICLE MANAGEMENT

- 19 We support the opportunity for off-road vehicle use in conformance with wildlife resource management objectives.

Vehicles should be restricted to designated and existing roads. We hesitantly support the area outside the WSA at the Killpecker Sand Dunes to remain open for this recreational use, so long as strict enforcement is carried out and no new areas be established for this use.

Two-tracks in wilderness inventory sites and WSA's should be reclaimed.

An effort to inform and educate the public about off-road use should be enforced.

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SOCIOECONOMICS

Being residents of Sweetwater County we would like to point out some numbers from the Wyoming Data Handbook, published by the Department of Administration and Information, Division of Economic Analysis.

- 20 Of the 6,773,340 acres in Sweetwater County, 4,891,652 acres are public land. Of those 4,891,652 acres of public land, the BLM owns 4,514,065 acres. In other words, the BLM owns 92% of all public lands in Sweetwater County. We, the people of Sweetwater County pay taxes and in theory own this public land. And in additional theory, the BLM should be representing the people's interests with equality given to us as a right from the Constitution of the United States. The question is, does the BLM appropriate money into budget categories according to the needs of the taxpayers or does the BLM appropriate money according to special interest groups?

- 21 Sweetwater County makes up a large section of the total acreage of the GRRA. We as sportsmen, recreationists, and wildlife watchers, are turning the tides of time and will pursue the BLM until it restores equality back to the people. Meeting the long range needs of the public and utilization of recreation resources will be pursued extensively.

For too many years we have watched the money budgeted for wildlife resources used up for anything but wildlife. Wyoming is catching up with the rest of the United States, and the oil&gas and livestock industry will no longer dominate nor dictate the actions of a federal agency. As Wyoming struggles to save its biological diversity and promote itself as a wildlife state, the livestock industry will have to scoot over. It's time to share a piece of the pie.

- 22 Economics in Wyoming have changed since 1900. Tourism is providing tremendous revenues, and that tourism is here for one thing, and one thing only.....to view wildlife. Therefore economics within the BLM has to shift, to shift towards the people that live here now! The BLM cannot for the next 20 years follow historical injustices in appropriations. You must recognize the needs of 1990's and the turn of the century, you must do it for us, but more importantly, you must do it for our kids.

In the news recently, it was said that recreationists (tourists, sportsmen, anglers, wildlife enthusiasts, etc.) generated \$5 billion into the state. Is that enough incentive for the BLM to shift some of its budgetary principles?

Comment Responses

- 171-18 Thank you for your comment. See response to comment 7-4.

- 171-19 Thank you for your comment.

- 171-20 Public lands belong to all Americans. The BLM does represent the people's interest with equality. The BLM does not appropriate money, Congress does. Dollars are apportioned by Congress based on resource needs. If you have concerns, you are encouraged to consult with your representative in Congress.

- 171-21 Thank you for your comment.

- 171-22 Thank you for your comment. The most recent figures and study we have received from the Division of Tourism for the year 1993 state that tourism and related expenditures totaled \$1.5 billion in Wyoming. The \$1.5 billion figure includes all motel, gasoline, and restaurant receipts. The out-of-state expenditures are not separated from in-state expenditures. Therefore, it is difficult to accurately estimate how much revenue real "tourism" is generated for the Green River Resource Area.

While wildlife watching is indeed one of the most popular tourist and recreational activities, it is by no means the sole reason people visit Wyoming. Hunting, fishing, camping, rafting, and generally just sight seeing and enjoying the tremendous natural beauty of Wyoming are other reasons people visit our state. BLM works closely with and has many partnerships with several organizations who represent wildlife and recreational interests. See responses to comments 16-97 and 171-20.

- 23** We would like to see damaged wetlands restored and riparian priorities spelled out via Watershed Management Plans for all AMPs. Phosphate loading, stream sediments, and salinity concentrations are problems that need specific guidelines compatible with soil stability objectives. For example, on pg. 693, it states,

"On all areas to be reclaimed, seed mixtures will be required to be site-specific and will be required to include species promoting soil stability. Livestock palatability and wildlife habitat needs will be given consideration in seed mix formulation."

Livestock palatability is not a measure of soil stability. Rather, to monitor weight gain, the net primary productivity would be a more suitable technique to be used as a vegetation standard.

There needs to be a comprehensive planning process by which watershed/soil stability can be incorporated into the decision making process. We realize that an EIA or EIS might satisfy this option. Perhaps another option is available; do you have overlaying activity maps showing high groundwater quality and high soil permeability?

- 24** The first issue is the protection of crucial big game winter range, which covers 55% of the planning area. We support and encourage the BLM to enforce the restriction of human activity on any crucial winter ranges. Specifically, livestock water sources should not be developed on these winter ranges. Winter survival in Wyoming is the greatest influence on big game populations and protection during these times is crucial.

We strongly support establishing critical habitat areas as exclosures. We request that the AUM's be withdrawn from these exclosures, and that the exclosures be determined through partnerships including the public, Wyoming Game & Fish, and the BLM. Selection sites would obviously include critical riparian and wetland habitat. With only 3% of the land supporting 70% of the wildlife species, the BLM has a strong obligation to insure the protection of these areas.

- 25** We also would like to a detailed management prescription for the protecting the habitat and strutting grounds for *Centrocercus urophasianus*, Sage Grouse. In a multiple use district, the strutting grounds and nesting areas are subject to impact, and cannot endure continued impact. We ask that the BLM prepare a management plan to protect these areas and spell it out in the EIS.

- 26** We oppose the use of M-44's on public lands. We also oppose aerial gunning on winter range and important wildlife habitat. The only flights that should be allowed are Management Flights.

- 27** In general, we would like to see the BLM and Wyoming Game and Fish work more closely together to meet wildlife objectives of the state.

Comment Responses

- 171-23** Regarding seed mixes, we agree. Only species that are known to be suited to a site should be used. Native species are preferred for reclamation, especially native seed that is collected in similar environments as the one to be reclaimed. Retaining native plant communities is part of the BLM's Fish and Wildlife 2000 initiatives. Obtaining soil stability is the primary aim of the rehabilitation program.

The RMP is an overview document. Site specific actions are detailed in site specific documents, such as AMPs, habitat management plans, or watershed plans. Your statement, "livestock palatability is not a measure of soil stability," is true. Livestock palatability is an additional concern, not an indicator.

A prioritization of the GRRRA stream riparian areas has been completed, and all AMPs and HMPs will include riparian objectives. AMPs have already been prioritized and are included in this document.

- 171-24** Water developments will not be allowed in crucial winter ranges unless they will help in wildlife management. Human activity in crucial winter range is a problem but as stated this is an enforcement problem.

Exclosures are an option, but fences are a barrier to wildlife. Improving riparian management and better livestock management is preferred.

See response to comment 94-9. There are presently 24 exclosures on riparian habitats. We plan to close livestock grazing in the Special Wildlife Management exclosures and riparian management exclosures when the RMP is finalized. New exclosures are not contemplated as a part of this plan.

- 171-25** We have a 2-mile buffer zone around sage grouse leks and nesting areas. The BLM manages habitat; not wildlife populations. However, our inventory is incomplete and not all leks have been identified.

Permitted land use activities which occur in known sage grouse strutting and nesting areas are required to observe sage grouse stipulations as a condition of approval. These stipulations outline time of permitted activities, season of use, and amount of surface disturbance allowed within the breeding complex.

- 171-26** See response to comment 94-15.

- 171-27** Thank you for your comment. We agree and will continue to work with the Wyoming Game and Fish Department.

171

RANGE IMPROVEMENTS

- 28** The key word is monitoring. We realize that we are short staffed and the road is a time consuming and difficult one for the Range Cons, but we need to protect the range for our children.

We would like to see monitoring techniques updated. We would like to see partnerships built between the BLM, conservationists, and ranchers to promote comprehensive policies.

- 29** We would like to see fencing of riparian enclosure areas and AUMs withdrawn from the enclosures. These type of enclosures could be incorporated into the I category allotments that have had an history of management difficulties. We recognize that some ranchers have a high esteem for the land and we salute them. But for those that have a difficult time following the ground rules, we as taxpayers and owners of the land request that the GRRRA put riparian enclosures in those allotments. In addition, outdated fencing be replaced with current BLM high standard fencing.

171

SPECIAL MANAGEMENT AREAS

In general:

- 30** We would like to see riparian objectives established for all special management areas. Plant seedlings in riparian areas can be quickly impacted by livestock. Woody species and forbs can also be stressed and subsequently suffers damage. In these conditions, plant communities struggle to sustain viable populations.

In sensitive soil areas, such as clay, a conversion from cattle to sheep might be appropriate. Management guidelines must be enforced to prevent unnecessary erosion and deterioration to the watershed. In critical areas we request that AUMs be withdrawn, especially in enclosures.

To preserve and protect the integrity of each unique ACEC, management objectives need to be monitored and enforced. We oppose additional roads constructed in non-designated locations by applicants leasing minerals and hydrocarbon resources.

We support new ACEC recommendations for South Pass Historic Site, Steamboat Mountain, Pine Spring Expansion, Sage Creek, Currant Creek, and Candidate Plant Species, and wilderness inventory sites that are not recommended for designation.

Cedar Canyon ACEC

- 31** We support retaining Cedar Canyon as an ACEC.

To protect wildlife values, big game winter range, and watershed values, monitoring the construction of designated roads is crucial.

Greater Sand Dunes ACEC

- 32** We support retaining the Greater Sand Dunes as an ACEC and managed for Class II VRM values.

We would like to see the ACEC maintained as a recreation area with a designated area open for off-road vehicle use in the area outside the wilderness area. This area already has impacts from ORVs, and serves as logical choice for this type of recreation. By allowing an area for ORV recreation, hopefully this eases the impact on the rest of the GRRRA.

Monument Valley Area

- 33** We request the area outside the WSA be managed as an ACEC, and would like to see an ACEC management plan be written. We support managing the area for Class II VRM values.

Comment Responses

- 171-28** All monitoring conducted by the BLM on public lands in Wyoming is in accordance with manual procedures. These manuals are available at the Resource Area for review. The BLM is mandated to work in partnerships to improve range-land conditions.

- 171-29** See responses to comments 171-14, number 2 and 171-24. In allotments where riparian conditions are poor, fencing may be necessary to improve the riparian habitat. Enclosures are used to determine the effects of grazing compared with no grazing. The Resource Area has sufficient number of allotments to determine effects within a riparian habitat. Where conflicts have arisen with older fences, the BLM has moved to upgrade the standards of the fence.

- 171-30** All activity plans that have riparian/wetland resources within their boundaries will include, or will be modified to include, riparian area resource objectives. Management of ACECs, monitoring, and enforcement occur at the plan implementation phase of the planning process.

- 171-31** Thank you for your comment. We monitor all road construction.

- 171-32** Thank you for your comment.

- 171-33** See response to comment 97-6. The Monument Valley study area includes part of the WSA and some areas outside the WSA.

171

- 34 There has been oil and gas disturbance out of compliance with current visual resource management. Again, enforcement should preclude unnecessary surface disturbance. Special stipulations sometimes do not work!

Natural Corrals ACEC

- 35 We support retaining Natural Corrals as an ACEC.
We support the expansion or addition of acreage for exchange to acquire checkerboard property, currently owned by Union Pacific Resources.

We recommend that the entire ACEC be withdrawn from surface mineral exploration and development to preserve the paleontology, wildlife resources, ice-caves, the springs, and unique vegetation.

Oregon Buttes ACEC

- 36 We support retaining Oregon Buttes as an ACEC and managed as a Class II visual resource.

It provides cover for the desert elk herd, provides cliff sites for peregrine falcons, supports stands of Limber Pine, and is an historical landmark.

Pine Springs ACEC Expansion

- 37 We support the expansion of the current ACEC to 6,030 acres, and are glad the Teepee Rings have been recognized as a highly significant site to be included inside the ACEC.

We do however, oppose further development of the spring as a livestock water source and request that the BLM work with the local rancher to optimize another alternative. This is an unique area where eastern and western plant communities exist in one area. Some communities have already suffered severe damage and we request that the remaining plant populations be protected.

Red Desert Watershed Area

- 38 We support any consideration of this area as a National Antelope Range. We do have a concern about the heavy coal bed methane leasing, exploration, and development in much of the area and feel stricter management objectives should be enforced. Standard mitigation guidelines should be carried out through the entire process of development, which includes exploration, production, and closure.

Another concern is the threat to ground aquifers being contaminated by coal bed methane fields. There is

Comment Responses

171-34 All oil and gas disturbance must be in compliance with visual resource management prior to authorization.

171-35 Thank you. No surface coal mining is to be permitted within the Natural Corrals ACEC, and the heart of the ACEC (357 acres) has already been withdrawn from mineral entry.

171-36 Thank you for your comment.

171-37 Thank you for your comment. Pine Spring was developed for livestock water many years ago. The spring is presently developed with a spring box and pipelines that move water from the spring to troughs ½ mile to 2 miles from the water source. The pipeline system is designed so that the wetland features of the spring remain intact and there is no loss of wetland areas. The spring itself is fenced with an enclosure designed to protect both the archaeological site and the spring from trampling by livestock and wildlife. By moving water away from the spring, the need to protect the archaeological site and to provide water for livestock and wildlife are both met under our current management practices within the Pine Spring ACEC.

171-38 The Red Desert was considered in the plan for a special management area, but it did not meet the importance criteria. Where values need special emphasis, this plan provides guidance for management. The interdisciplinary team and wildlife biologist did not feel that this area warranted designation as a National Antelope Range. See response to comment 10-23. We agree that the area is a quality wildlife viewing area and the plan provides for this use by recommending backcountry byways to promote this use.

171-39 Thank you for your comment.

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insufficient data to bar the chance of leakage through fractures in geological formations.

We still entertain the possibility of considering it to be a National Bison Range.

And above all, it needs to remain a quality wildlife viewing area!

White Mountain Petroglyphs

- 39 We support retaining White Mountain Petroglyphs as an ACEC.

We also support a 1/2 mile area surrounding the ACEC be closed to surface disturbing activities, mineral material sales, and use of explosives and blasting. There is raptor nesting in the area, some cougar, and a deer fawning area. These also need protection.



Wyoming Wildlife Federation
P.O. Box 106, Cheyenne, WY 82003
307-637-5433

April 17, 1993

Renee Dana, Team Leader
P.O. Box 1869
Rock Springs, WY 82902

Re: Green River Resource Area Resource Management Plan and Draft Environmental Impact Statement.

Dear Ms. Dana,

The Wyoming Wildlife Federation and our more than 8,000 members appreciate the opportunity to comment on the Green River Resource Management Plan. The Wyoming Wildlife Federation recognizes the interrelationships between a healthy economy and a healthy environment. We support the carefully planned development of non-renewable resources and the use of renewable resources under mandated prescriptions maintaining the sustained yield. Since several public land parcels within the Green River Resource Area have suffered damage and the productivity of these areas has declined, we also support ecological restoration of these areas.

We support the Preferred Alternative with the following changes:

AIR QUALITY MANAGEMENT

- 1 We are concerned that any increases in oil and gas production and soda-ash expansion in the resource area will lead to an inevitable increase in total emissions. Any increase above the current level will lead to a degradation not only of air quality but also of visual values in the area. We believe the BLM needs to support a visual resource and air quality management team to monitor and regulate the industries in the area. We know the BLM and DEQ are studying the air quality in the Green River Basin and encourage the BLM in this endeavor.

CANDIDATE PLANT SPECIES

- 2 Biodiversity is a key indicator of ecological health and is, in our opinion, a key to man's base survival. Endangered animals cannot be protected to the exclusion of all else, particularly plants. Plant protection cannot be accomplished without protection of the plant's critical "corner" of the ecosystem. We therefore support designation of ACEC's and public land withdrawals for listed, threatened and endangered plants. We also support additional research to identify and protect endangered species before they are lost.

WORKING TODAY FOR WILDLIFE'S TOMORROW!

Wyoming Affiliate of the National Wildlife Federation

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FOREST RESOURCE MANAGEMENT

Harvest levels.

- 3 We recommend application of a later version of FORPLAN model to determine harvest level since no justification of a harvest level of 500,000 board feet was given.

Commercial harvests.

- 4 We believe that applying rarity criteria to coniferous forests, the other values like habitat and the slow growth rates of these forests makes commercial harvest inappropriate. No justification was given for increasing the maximum clearcut size and we recommend maintaining any clearcuts at 10 acres. (Ref. Management Framework Plan-Salt Wells Resource Area). We urge you to set the replacement seedling requirements at two years, disallow any below-cost timber sales and disallow road construction at federal expense.

Minor forest products.

- 5 We recommend a projection be made of minor forest products demand and that a 20 year plan be considered to supply this demand before any commercial sales are considered. Within that plan we recommend a slash disposal plan be drawn up and followed through.

Other forest issues.

No analysis was made of harvest levels on the global carbon balance—specifically on the value of these forests as a carbon sink in mitigating global warming. This analysis should be made.

An ecologically intact area of high desert old growth timber be identified and managed to preserve forest, biodiversity and scientific values.

HASMAT

- 6 We concur that those responsible for contamination of public lands should also be responsible for testing, clean-up, remediation, restoration or resource damage and other liabilities associated with hazardous and toxic substances spills, released and contamination. Regulations designed to prevent hazardous and toxic substance spills and to protect the public and public lands from the impacts of hazardous and toxic substances should be strictly enforced. BLM should monitor industry actions regarding toxic and hazardous substance handling and management.

LIVESTOCK GRAZING MANAGEMENT

- 7 We are very concerned that at a time when grazing on public lands has become a matter of some considerable concern in our Nation's capital and around the Western states, the BLM's proposed alternatives outlined in the RMP, both the "Preferred" and "Alternative C" accomplish little more than to repeat and reinforce current range management practices. Although 34 of the 79 allotments in the resource area, or 43% are designated Category I Allotments,

Comment Responses

172-1 See response to comment 94-13.

172-2 With the addition of a botanist to the District staff, the plant program is picking up steam, and we intend to fulfill our rare plant protection responsibilities, as defined by federal laws and regulations. The Green River Resource Area recently completed the first Habitat Management Plan for plants in the state, and we intend to prepare plans for all candidate species in the planning area.

172-3 The harvest level (yield) was determined from a U.S. Forest Service Region 2 Stage II inventory. This inventory was processed using the combined run option in the VARGEN computer program. The U.S. Forest Service's FORPLAN planning model was used to develop alternative harvest schedules. See response to comment 171-6.

The actual volume harvested since this program was developed in 1985 has been far below the amounts on any of the alternative harvest schedules. This was based on the best available information.

172-4 What is rarity criteria? Because we have controlled fire and very little timber harvesting has taken place in the past, there are many stands of timber that are made up of old diseased trees and are subject to insect infestations. To have a healthy forest, all age classes and diversity in species need to be present. Some of this can be accomplished by harvesting older decadent stands. Timber sales are being conducted on an interdisciplinary basis. These factors will all be taken into consideration at the time of preparation of the timber treatment planning document.

See response to comment 171-5 for clearcut size and response to comment 171-8 for establishing reproduction.

Road construction costs are met through the timber sale for which the road is being built. With all the costs of roads and logging, there still must be a set positive monetary return for each sale. (There is a set minimum amount for which the timber must be sold.) Also, there are many who use the roads for recreation and other uses.

172-5 If you are referring to fire wood when stating minor forest products, this demand is met by selling timber that is dead or

Comment Responses

down and would not be suitable for commercial timber sales. The demand for minor forest products is very small compared to the total forest resource. Currently there is no problem meeting the demand for these products. It is very difficult to project the demand of anything 20 years into the future. In the future, if demand becomes greater than what the forest can sustain, then sales will need to be limited.

Slash disposal plans are part of every timber sale.

On global carbon balance and warming, see response to comment 171-7.

Old growth timber does not grow in a high desert environment. The greatest biodiversity probably does not exist in old growth stands, but the old growth stand adds to the biodiversity of the forest component. There are many old growth stands within the areas that will probably never be logged because of their location, steep slopes, or species. Old growth stands and their management objectives would be identified through site specific analysis.

172-6 See response to comment 171-9.

172-7 The current active preference level was arrived at by surveys conducted in the 1960s. After conclusion of the surveys, reductions began on all allotments within the Resource Area. These reductions were concluded in the early 1970s. It is the current policy of the BLM to conduct monitoring studies to determine if the current active preference is correct for each allotment. The latest survey conducted in the resource area was finished in the early 1980s. This survey covered only two thirds of the GRRA and only determined the range sites and their condition. These data were analyzed in the Salt Wells-Pilot Butte Grazing EIS. The data in that document did not determine that the active preference was incorrect.

172-8 Evaluation of AMPs are conducted by interdisciplinary staff as well as outside review of results. Permits are issued for 10 years unless (1) the lands are pending disposal, (2) the lands will be devoted to public issues which preclude grazing prior to end of 10-year permit, or (3) it will be in the best interest of sound land management to specify shorter term. As evaluations are conducted on an allotment, it is possible that a period shorter than 10 years may be recommended.

172-9 The term Actual Use denotes the amount of actual use made by a permittee. As stated earlier, the active preference for an allotment will be determined through monitoring of data.

172-10 See response to comment 95-3.

172-11 See responses to comments 171-24 and 171-29. Page 184 in the Preferred Alternative (RMP Draft EIS) states "Fences that are documented to be a problem to big game migration would be modified to meet BLM fence standards within 4 years of problem identification." Other existing fences which pose no apparent problem for wildlife will remain at present design specifications until reconstruction.

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The BLM indicates that the resource area authorized grazing use could conceivably increase from the current five year average use of 180,000 AUM's to the recognized active preference level of 318,647 AUM's. It is very difficult to envision a scenario in the near future whereby those 34 allotments in unsatisfactory or declining trend will be improved to such a healthy condition along with the whole of the resource to warrant a 43% increase in total AUM's.

We would like to know by what method the BLM arrived at the number designated as the active preference level of AUM's in the Green River Resource Area. We are concerned that much of the management decisions on the resource are based on outdated range studies or monitoring practices and that numbers such as the current active preference of AUM's may, indeed, need to be reevaluated.

8 We recommend that a plan be developed to determine the condition of each allotment based on current, state-of-the-art range management science in tandem with wildlife and wildlife habitat specialists from allied wildlife agencies and that livestock permittees be granted permits for five instead of ten years and that issuance of their permits be contingent on data that demonstrates the rangeland's carrying capacity is sufficient to support grazing after it has been demonstrated that the range is in improving condition with a healthy plant community native to the area.

9 Accordingly, we recommend that the numbers of AUM's in "actual use" be determined by the carrying capacity of the land and the condition of the vegetation, riparian areas, water and soil quality and the viability and health of the wildlife rather than by political and historical precedence. We further recommend that the current level of 180,000 AUM's be considered maximum until a resource audit is completed.

Riparian areas.

10 The BLM's stated objective is "To achieve proper functioning condition or better of 75% of riparian areas in 10 years." We recommend the BLM achieve proper functioning condition or better on at least 75% of the riparian areas by the year 2003.

Range improvements.

11 Although the BLM has identified 28 out of the 34 "I" Category Allotments have riparian area conflicts or problems, plans for range improvements indicate that none of these allotments will receive riparian exclosures. We urge the BLM to include riparian area exclosures as a part of the plan to reach their stated objective for riparian recovery in the resource area.

Current fences have to comply with current BLM standards. However, many miles of BLM fences are not in compliance due to their age. Antelope in particular are at risk under certain conditions of being cut off from crucial ranges because of difficulty traversing the older fences. Accordingly, we recommend the BLM set into motion a plan to phase in fences that comply with accepted standards.

MINERALS MANAGEMENTOil and Gas

- 12** We concur with "Alternative C" and recommend the inclusion of wetlands and riparian areas in the NSO stipulations for Oil and Gas leasing regulations.

Coal

- 13** Since over a decade has passed since the Green River Resource Area was evaluated for coal development potential, we strongly recommend that a complete audit of the area be conducted for Migratory Birds of High Federal Interest and federally listed endangered or threatened species.

We strongly disagree with the "Preferred Alternative" of allowing coal mining in big game crucial winter range and parturition areas. Our preference is for "Alternative C" particularly in the light of these recent events:

1. An ongoing assault in the legislature of the vegetation reclamation standards of federal coal leases,
2. Severe and prolonged winter conditions contributing to extremely stressed wildlife,
3. The cumulative effects on big game of increased oil, gas and coal development in wildlife corridors, particularly throughout Southwestern Wyoming.

We disagree with the BLM's determination the "no areas were classified as unsuitable" for Coal Unsuitability Criteria numbers 9,11,12,13,14, and 15: We are concerned that many nesting sites for a variety of raptors along the Green River/Hams Fork are in danger of being disturbed by surface mining. These cliffs and rock outcrops are difficult to reclaim and, in fact, may be impossible to reclaim under the current provisions of SMCRRA. Therefore we request the BLM inventory these nesting sites and hold them out as unsuitable for mining.

Also, recent extremes in weather conditions and the impacts of livestock grazing have the potential to inflict serious damage to the critical wintering ranges for big game and sage grouse especially in the Cooper Ridge, Elk Butte and Bean Springs region. We recommend that crucial big game and sage grouse habitat be designated unsuitable for mining.

RECREATION RESOURCE

- 14** We believe that it is proper for the BLM to support local efforts like the Green River Greenbelt Project and to provide additional opportunities like Rails-to-Trails programs.

VISUAL RESOURCE MANAGEMENT

- 15** While the air quality for most of the resource area may fall within acceptable limits and meet federal and state standards, there is a growing concern for the visual quality of the area. We encourage the BLM to monitor

closely the growing pall of smoke around the resource area and maintain strict standards for industry to follow to preserve our visual integrity. We also encourage the BLM to refuse permits to any industry that proposes a physical plant or structure that will interfere with the visual quality of management areas of special scenic value.

WATERSHED/SOILS

- 16** Applying the concept of ecosystem rarity, all riparian areas should be considered for special protection. We urge you to establish, monitor and support sustainable riparian objectives. On Page 60 we urge you to strike "severe" losses of riparian qualities. Any loss is unacceptable to the Wyoming Wildlife Federation. We urge you to establish a soil erosion monitoring network in each watershed, objectives, and a plan to follow through where soil erosion is unacceptably high. Priorities for wetland and riparian restoration should be established and followed through. Quantify and set goals to reduce stream sediment, phosphate, and salinity.

Groundwater quality should be protected by prior testing of pit liners and by restricting development which would threaten areas of high ground water quality. Map areas of high groundwater quality and incorporate those into active planning.

Unstable and degraded conditions in the Salt Wells, Four J Basin, Canyon Creek, Lower Currant Creek, Sage Creek and Henry's Fork (Dry Creek) should be restored to comply with sediment transport and water quality objectives that insure ecosystem integrity and sustained yield. A restoration plan should be developed as part of watershed management plans. These plans should become active management guidelines.

WILDLIFE

- 17** We concur with the Preferred Alternative with these exceptions. We believe a greater emphasis needs to be placed on improving and repairing riparian areas throughout the whole resource area and the the Agency identify that goal as its first order of priority. We also believe that more adequate provisions need to be made to inventory and manage for endangered and threatened wildlife, fish or plant species. The Wyoming Wildlife Federation supports the reintroduction of extirpated indigenous species to the resource area.

SPECIAL MANAGEMENT AREAS

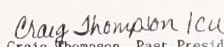
- 18** The Wyoming Wildlife Federation supports "Alternative C".

CONCLUSION

The Wyoming Wildlife Federation greatly appreciates the opportunity to provide input into this very significant document and to promote the interests of wildlife and healthy wildlife habitat throughout the resource. We also hope to be involved in the lengthy process ahead as the BLM seeks to revise and later implement the plan.

Sincerely,

 Jo Lyn Reeves, Affiliate Representative
 WWF


 Craig Thompson, Past President, WWF

Comment Responses

172-12 The tables in the Preferred Alternative and Alternative C were incorrectly labeled and should have read that Floodplains, Riparian Areas, and Wetlands will be NSO. These are being corrected. Also see response to comment 94-2.

172-13 Some portions of the Known Recoverable Coal Resource Area (KRCRA) are inventoried annually by BLM for raptor activity. Habitats within existing active coal leases are inventoried annually by Bridger Coal and Black Butte Coal companies. See responses to comments 11-6, 16-56, and 94-10.

172-14 Thank you for your comment.

172-15 See response to comment 94-13.

172-16 On page 60 (and the corresponding page 176 of the RMP Draft EIS) instead of striking the word "severe" we will instead insert the word "especially" so the sentence reads "...especially where it has resulted in severe..."

A prioritization of the GRRA stream riparian areas has been completed and all AMPs and HMPs will include riparian objectives. AMPs have already been prioritized and are included in this document.

172-17 AUMs within all wildlife and recreation management exclosures are planned to be withdrawn from grazing. Please note the changes in emphasis for riparian areas in the livestock and vegetation sections of the Proposed Plan. We agree that riparian areas are of great importance on public lands. We also believe that the measures presented within the Preferred Alternative will allow us adequate guidelines to improve and enhance the riparian areas within the GRRA. The final document provides utilization guidelines for herbaceous vegetation based on the functioning condition of riparian areas. Inventory and management of threatened and endangered species is occurring now and will continue. More site specific management prescriptions would be prepared in activity planning.

172-18 See response to comment 94-2.

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Working for the Nature of Tomorrow

NATIONAL WILDLIFE FEDERATION

Rocky Mountain Natural Resource Center 303/786-8001
2260 Baseline Rd., Suite 100, Boulder CO 80302 FAX 303/786-8054

April 5, 1993

Rene Dana
Team Leader
Green River Resource Management Plan
P.O. Box 1869
Rock Springs, Wyoming 82902

Dear Ms. Dana:

This responds to the Draft Resource Management Plan (RMP) and Environmental Impact Statement (EIS) for the Green River Resource Area. These comments are provided in response to your solicitation on the above draft documents.

The National Wildlife Federation is the nation's largest conservation organization. Founded in 1936, the Federation, its 5.3 million members and supporters, and a national network of affiliated organizations, work to educate and assist individuals and organizations to conserve natural resources and to protect the Earth's environment.

- 1 The National Wildlife Federation (NWF) is greatly disappointed in the draft RMP/EIS. While we recognize RMP's must be general in nature, the Green River RMP is characterized by its ambiguity and excessive generality. There has been no real documented effort to develop and articulate meaningful alternatives in the RMP. The alternatives evaluated are characterized by subtle, semantic differences in wording rather than substantive, explicit choices in management. This is not consistent with 40 C.F.R. 1502.14 which states the selection of alternatives "is the heart of the environmental impact statement," and the EIS "should present the environmental impacts of the proposal and the alternatives in comparative form, thus sharply defining the issues and providing a clear basis for choice among options by the decision maker and the public." However, in the Green River RMP/EIS, of the 31 livestock grazing topics addressed in the Alternative Summary Table (Table 2-1), 45 percent are identical across Alternatives A, B, and C to the prescriptions described in the Preferred Alternative. An additional 23 percent show at least two of the evaluated alternatives are the same as the preferred alternative.

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Rene Dana
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Where differences do exist among Alternatives many times these differences are minimal and functionally equivalent. For example, again regarding livestock grazing management, the preferred alternative describes a management action as follows, "Public lands would be made available for livestock grazing while considering the needs of other resources.", Alternative A is described as "Same as preferred", Alternative B is described as "Consideration of the needs of other resources would be secondary to livestock grazing objectives.", and Alternative C is described as "Livestock grazing management actions would be designed to enhance wildlife, wild horse, watershed and soils objectives." We question what if any functional differences exist among alternatives. The only tangible differences occur between the Preferred Alternative and Alternative C. The only difference between Alternative B and the Preferred Alternative is a clearer statement of intent with Alternative B. The Preferred Alternative describes livestock grazing as the primary action and an unspecified level of "consideration" provided to a plethora of other resources. At least Alternative B provides a clearer better description of management reality when it states that livestock grazing will be the primary focus for decision makers.

- 2 The statement in the Preferred Alternative that "Public lands would be made available for livestock grazing while considering the needs of other resources" is characteristic of the philosophy pervading the documents and BLM's management philosophy. Neither livestock or livestock grazing are public resources on public lands, rather they are a private extractive industry based on commodity production no less than mining or commercial logging. Livestock are domestic species of non-North American origin. The primary resource managed issues is the forage supporting grazers not the livestock. We object to this philosophy and suggest that acknowledgement and management of the true resources of public lands not be subverted and confused by the purposeful declaration of livestock as a resource of public lands. We refer BLM to the Federal Land Policy and Management Act of 1976 which declares at Section 103(a) that "fish and wildlife are resources" of the public lands. The entire concept that livestock grazers get the initial allocation of forage resources and wildlife is allocated the leftovers (if any) must be changed. Soil, vegetation, water, fish and wildlife are the primary resources of public lands, any use of these renewable or nonrenewable resources must evaluate all potential impacts to the primary resources prior to decision-making. The reverse priority has characterized BLM's policy, historically and the Green River RMP maintains that contrary philosophy. We suggest the entire RMP and EIS be reanalyzed and rewritten on a resource based foundation.

Comment Responses

173-1 We disagree that the RMP Draft EIS did not develop meaningful alternatives. The purpose of these alternatives was to give the reader an opportunity to assess the trade off associated with different alternatives. Please see response to comment 27-1.

173-2 The BLM management objective for livestock grazing management is to improve forage production and ecological conditions to benefit livestock, wildlife habitat, watershed values, and riparian areas. Under this objective, one of the management actions is to make public lands available for livestock grazing while considering the needs of other resources. The intent of this statement is not that livestock grazing is the dominant use, but that it would be allowed while in consideration of other resource values such as wildlife, watershed, and riparian values. The BLM is responsible for management of public lands for long-term sustainability and future generations.

3 While we are concerned about a variety of management issues described in the RMP/EIS but we will focus the remainder of our comments primarily on the issues of livestock grazing and mineral extraction. It is inappropriate for the BLM to maintain current levels of grazing in all the alternatives. There is acknowledgement throughout the document of significant problems with grazing management in the Green River Resource Area. Areas of localized overgrazing are discussed, many allotments are said to be in a declining trend, and it is admitted that many riparian areas are not functioning properly. It is even admitted the preferred alternative will result in continued and increasing overuse of forage and riparian decline (page 104). The RMP/EIS admits on page 438 that "over half of the inventoried streams indicate the potential to significantly improve stream stability". Given this admission of resource degradation we are amazed the authors can even begin to advocate a business as usual approach regarding livestock grazing. The 5-year average for livestock grazing has only been 180,000 AUMs and the RMP/EIS documents serious, long-lasting impacts at this level. How can any responsible planner or decision maker realistically suggest no change in grazing intensity level and management. None of the alternatives evaluated call for a reduced level of grazing, rather all describe a minimum use at the current average and incredibly most suggest that it may be possible to double livestock to the "active preference" of 318,000 AUMs. One wonders whose preference is being prescribed here. No manager with an eye to the future and sustained yield of forage or livestock could support a prescription with an acknowledged negative effect on the basic resources of public lands. Again we point out the failure of the RMP/EIS to propose and evaluate meaningful alternatives to the management of public lands and call for a complete rewrite of these planning documents. Although the documents call for "monitoring studies" to collect necessary data to resolve conflicts from livestock grazing, no set of objectives, no techniques and most importantly, no time frames for completion are described for these monitoring studies. It is a breach of the public trust to suggest monitoring studies will occur without declaring the methodology and committing to a time-frame for completion. BLM's history on monitoring studies provides no foundation for reaching decisions based on science. Monitoring methodologies have been changed; time-frames extended; objectives modified; all these uncertainties lead to inaction and degraded resources. It is time to commit to specific monitoring studies and final deadlines for decisions based on science. Monitoring in itself implies a never-ending process. It is time to commit to an action plan for the conservation of resources on the public lands.

Comment Responses

173-3 Based on input from the public, we revised this Final RMP to include utilization standards for riparian areas. Those utilization standards are tied into the proper functioning condition of the riparian areas.

Current BLM policy states, that to change the active preference for any allotment, monitoring data must be collected and evaluated. These evaluations will determine if resource objectives are being met and what actions, such as reduction of AUMs, may be implemented to reach the objectives. All monitoring methods and evaluation procedures have been standardized in manuals. These manuals can be reviewed in the Green River Resource Area. The time frames for management actions for all allotments in the GRRA were established in the Range Program Update of 1990. This document is part of the Management and Situation Analysis. Collection and evaluation of data is ongoing.

4 The term "desired future plant community" is much too imprecise and subjective. Different managers will likely have different perspectives of what "desired" means. To some, the desired future plant community may be a assemblage of flora that mimics pre-settlement composition, to others, it may mean a range dominated by crested wheat grass. We suggest the term be restructured to a term more aptly describing the ecological potential of the specific plant community.

5 Fencing should be last option proposed and evaluated for reducing livestock grazing conflicts. There are many techniques with negligible or benign effects to migratory wildlife that have proven successful and economically efficient for livestock operators. Active herding is but one example and should be a required form of management not a management option. Another technique is more stringent enforcement of livestock trespass in the Green River Resource Area. The effectiveness of any livestock management scheme is problematic at best if livestock are not manipulated in prescribed manner nor can credit be provided to responsible livestock operators when their allotments are over-run with trespass livestock.

6 We are concerned with the changes proposed in minerals management on the Green River Resource Area. All alternatives except the no-action alternative call for the revocation of about 3.5 million acres of mineral withdrawals. There is no mitigation proposed to ameliorate the effects of this action nor are there any assurances that lease stipulations will be used to protect fishery and wildlife resource values. We are curious that the BLM projects the same amount of oil and gas can be produced by Alternative C as the Preferred Alternative and yet Alternative C integrates the needs and protection of fishery and wildlife resources into minerals management. Is not Alternative C more appropriate for the multiple use of the public lands rather than preferred use provided to extractive industries by the Preferred Alternative?

7 The National Wildlife Federation supports the continued designation of all identified Areas of Critical Environmental Concern (ACEC) designated prior to this planning process. NWF also supports ACEC designation for areas proposed in the draft RMP/EIS.

173-4 "Desired future plant community" or "desired native plant community" is site specific and is determined relative to the potential plant community based on soil type and precipitation. The term "desired plant community" was developed to reflect the different resource values of the public lands and to allow flexibility in the setting of vegetation objectives for multiple use. All desired plant communities will be defined by interdisciplinary teams of resource specialists and approved by the authorized officer.

173-5 Fencing is usually the last option taken. Herding is encouraged to the operators. The permittees in "I" category allotments have resource objectives that must be met. The permittees are expected to meet these objectives, however, through management of their livestock. The GRRA has a very active trespass abatement program and has been very successful at stopping trespass problems that have occurred in the area.

173-6 See response to comment 11-3. Table 4-11 of the RMP Draft EIS shows that oil and gas can be produced under the Preferred Alternative at a greater rate than under Alternative C. Annual production per well was found to be too low in the original table and it has subsequently been corrected. The corrected table still shows greater production for the Preferred Alternative than for Alternative C.

The BLM's preferred alternative would generally place greater emphasis on protection of the natural environment compared to Alternatives A and B and would prescribe fewer restrictions on land use compared to Alternative C. The Preferred Alternative was developed to balance production or commodity uses with protection of the environment.

173-7 See response to comment 94-5.

Rene Dana
April 8, 1993
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- 8 The continued viability of the fishery and wildlife resources in the Green River Resource Area is dependent on a sustainable mix of uses on the public lands. Short-term management goals must not prevail against conservation strategies for all resources. We encourage the BLM to re-evaluate their planning efforts on a systems level basis. In that way, resource use can be evaluated and the true impacts to all resources be measured. Again, we request a reformulation of the RMP/EIS. Specifically, more detailed planning should lead to a meaningful array of alternatives. The EIS could then realistically evaluate impacts of management schemes and result in meaningful multiple resource management. Thank you for the opportunity to comment on the Green River RMP/EIS.

Sincerely,



Stephen C. Torbit Ph. D.
Senior Scientist

cc Wyoming Wildlife Federation, Cheyenne, WY
Director, Wyoming Game and Fish Department, Cheyenne, WY
State Director, Bureau of Land Management, Cheyenne, WY

SCT:pcy

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STONEFLY SOCIETY
Member Club Federation of Fly Fishers OF THE WASATCH and Trout Unlimited

482 12th Avenue
Salt Lake City, Utah 84103
December 21, 1992
581-5088, 355-0688

Renee Dana, Team Leader
Bureau of Land Management
Rock Springs District
PO Box 1869
Rock Springs, Wyoming 82902

Dear Ms. Dana

- I have reviewed your Green River Resource Area Resource Management Plan and Draft Environmental Impact Statement, for the Stonefly Society Chapter of Trout Unlimited and the Federation of Fly Fishers. We feel that your district contains unique and extremely valuable aquatic resources. These resources have both regional and national significance and demand the highest level of consideration in your future management plans.

The combination of high desert ecosystems with potentially very valuable cold water streams and associated riparian areas produce unique resource areas. The following streams clearly merit special attention. However, I believe that if we were more familiar with your district, we would feel additional areas would be equally significant.

- 1) Red Creek
At present this extremely erosive watershed degrades Utah's most valuable trout river. We do not feel that your plan adequately addresses the needs of this watershed. Unfortunately, investments in this watershed do do have a speculative quality. One cannot be sure that even with severe land use restrictions will produce a more stable watershed. In spite of this uncertainty, we feel that an initial experimental program should be started immediately.
- 2) The Big Sandy
We regard this as an unusual river which deserves additional attention. There are very few valuable cold water streams in such high desert environments. We also feel this river has value as one of the very few large tributaries to the Green River.
- 3) The Sweetwater River
This river which flows relatively untouched by diversion structures deserves additional attention and consideration.
- 5 We welcome the opportunity to continue to review your plans and request to be placed on the your mailing list. We would also seriously consider the commitment of either time or money from our organization to help in projects in your district.

Yours,



Fred Reimherr
Stonefly Society Chapter Trout Unlimited and the Federation of Fly Fishers

5968 South 4000 West Kearns, Utah 84118 (801) 967-2834

Comment Responses

173-8 The RMP Final EIS is based upon input from the public and has been substantially revised. The Proposed Plan was not done on an ecosystem approach, but activity plans will be developed using ecosystems.

174-1 We agree with you that the Green River Resource Area has valuable and unique aquatic resources. It is our intention to manage these systems for their greatest potential and appreciate your interest and concern in these resources. You have been added to our mailing list and we will keep you informed on any site specific work taking place on the rivers and streams you have mentioned.

174-2 Efforts have been made since 1969 to address sediment concerns in Red Creek. However, Red Creek will never be a pristine stream due to the highly erodible soils and geology.

174-3 Currently, the BLM has placed emphasis on management of the Big Sandy and we're in the process to fence cattle use off the Big Sandy in the Highway Gasson Allotment. Also, we have a Cooperative Agreement with Bureau of Reclamation, Trout Unlimited, and Wyoming Game and Fish Department to install habitat improvement structures. See response to comment 174-1.

174-4 The Sweetwater River has been found suitable for consideration for inclusion into the NWSRS. Thank you for your comment.

174-5 Thank you for your comment and interest.

175

Renee Dana, Team Leader
Green River RMP
Bureau Of Land Management
P.O. Box 1869
Rock Springs, Wyoming 82902-1869

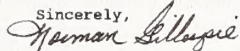
February 22, 1993

Dear Renee Dana:

I would like the following comments accounted for on the Green River RMP:

1. We are in complete agreement with the BLM that the riparian areas need to be improved on the public lands. Along with the improvements of the riparian areas we would like to see a vegetation inventory of the area to determine the actual carrying capacity of the area without adverse effects. The allotment AUM's were previously based on numbers that were higher than the capacity of the land that were set by the Taylor Grazing act and our not biologically sound. Also any rangeland improvements must include improvements for overall range improvement, this will benefit soil, watershed, fire and wildlife needs. Not primarily for cow food enhancement. If the areas cannot support the intensive use of livestock and the needs of wildlife, the wildlife should be given priority and the livestock should be moved to there private land only.
2. We need to make sure that no more than 40% usage occurs on this area so that the land can be maintained or improved. This will be very hard to do unless the BLM has adequate personnel and techniques to monitor this area. We need a plan on who and how it will be monitored so that the new plan can be implemented. The lessees areas need to be mapped out and the dates of there grazing usage need to be listed on these maps so that the public can help enforce the rules on the resource area. If the rules cannot be enforced the new plan won't do any good.
3. We also need to make sure that the springs in this area are not plugged by overuse since water is a very important resource in this area. If necessary some of the springs will need to be fenced off with only a small area accessible to livestock for drinking to prevent polluting and plugging from occurring.
4. On forest products we need to make sure that the timber is not harvested at a rate that is greater than it is grown, and adequate cover should be maintained to allow the wildlife to exist.

Sincerely,



Norman Gillespie
Wyoming Big Game
Resource Association
P.O. Box 1596
Rock Springs, Wy 82902

176

April 3, 1993

Renee Dana, Team Leader
P.O. Box 1869
Rock Springs, WY 82902

Dear Ms. Dana,

Thank you for the opportunity to comment on the Draft Green River Resource Area Resource Management Plan. The following comments are mine alone and do not necessarily represent any group or agency.

Overall I found the document to be a step in the right direction but I wish to emphasize my support or concern for specifics with the following comments.

1. P. 125 - Fire Management - I fully support the use of prescribed fire by both planned and unplanned ignition as a resource management tool. While positive steps have recently been taken with the implementation of the Little Mountain Project, the BLM is still slow to act on habitat changes being brought about as a result of fire suppression. Aspen and mountain shrubs such as serviceberry are quite limited in the resource area yet serve as extremely valuable wildlife habitat and provide biodiversity. The suppression of fire and undercontrolled livestock grazing place these habitats at risk and the BLM management plans to date, including this RMP, do not address the issue adequately. What has been done to date (with the exception of the Little Mountain Project) and is planned for the future amounts to little more than hair on a frog's back.
2. I recommend the BLM place a higher priority on maintaining healthy aspen and mountain shrub communities. To do so will require increased use of fire, both of planned and unplanned ignition, and increased attention to livestock management. In areas where wildlife are documented to be causing a habitat problem wildlife numbers and/or distribution should be addressed.
3. P. 129 and Appendix 8 - Lands and Realty Management - In recent years the Wyoming Game and Fish Department has made numerous comments in response to BLM realty actions regarding the need to protect a corridor along the base of White Mountain to protect pronghorn winter range and migration routes. However, these comments do not appear to have been considered in the development of the draft RMP.

During moderate to severe winters, antelope utilize this area intensively. 1983-84 was the last time a major problem occurred but several hundred antelope have been observed on White Mountain Rim and between White Mountain and the city of Rock Springs since December 1992. Newspaper accounts of antelope near the city were also common this past winter.

As such, I recommend the BLM reevaluate this section of the plan and include this issue as a concern. Specifically I recommend deleting the following parcels from the suitable disposal list: T19N R105W section 8R1/2 E1/2 and section 16 lots 5-16. I recommend adding the following parcels for acquisition: T19N R105W sections 5, 17, 29 and 31 and T18N R105W section 6.

Comment Responses

175-1 BLM has categorized the allotments and placed a priority on them. GRRA has also placed a priority on all stream riparian systems in an effort to concentrate limited labor and procurement dollars where they are needed most. Current inventories on riparian areas is an area where we intend to concentrate. See response to comment 171-7. Range improvements are established in an allotment to help reach resource objectives established in an AMP or grazing plan. Active preference will be determined through monitoring and levels re-established if resource objectives, including wildlife, are not being met.

175-2 The RMP Final EIS has tied in utilization levels with proper functioning condition of riparian areas. Information on use areas is available at the Resource Area office.

175-3 Fencing of springs for protection is taking place in the Resource Area.

175-4 Thank you for your comment.

176-1 Thank you for your comment.

176-2 We agree that fire is a key component to maintaining or improving healthy aspen and mountain shrub communities. The RMP addresses fire as a management tool.

176-3 With the demands for community expansion, BLM-administered lands have been made available for development. See response to comment 16-10.

176

4 P. 136, 512, 518 and Appendix 9-5 - Livestock Grazing Management - Based on the following statements from the RMP I recommend the active preference be reduced to the current use level of apx. 180,000 AUMs. The BLM should then readjudicate forage based on an up-to-date inventory and site analysis. I support the use of suitability criteria as stated on page 518.

1) On page 512 of the draft it states: "If livestock use levels increase to active preference of 318,641 AUMs over the next 20 years, more widespread overuse of forage could be expected in riparian areas as well as on uplands. Range conditions and trend could be expected to decline and less desirable plant species would +increase."

2) On page 518 it states: "Maintaining an active grazing preference of 318,641 AUMs could result in a downward trend in vegetation quantity, quality, and species composition and diversity even with implementation of AMPs and range improvements."

Given this analysis how can the BLM justify continuing with an active preference of 318,641 AUMs in its preferred alternative?

5 Appendix 9-5 I oppose water development on wildlife crucial winter ranges. However, I strongly urge the BLM adopt a policy regarding protection of natural springs and man-made and natural ponds. I recommend all natural springs and natural and man-made ponds be fenced and off-site water troughs be made available for livestock and wildlife. The trampling effects of large numbers of animals on these water sources are well documented as are the benefits of protection.

6 P. 160 and Appendix 3-2 - Minerals Management - I support the concept of multiple use and the need to develop mineral resources. However, there are areas which should be set aside from this type of intrusion on the landscape. Wilderness designation sometimes affords this protection, but more often than not wilderness areas amount to little more than picturesque but sterile rock piles with little productive potential. I recommend no mineral leasing or development in the Currant Creek, Sage Creek, Red Creek, Sand Dunes, Steamboat Mountain, Red Desert Area and South Pass Historic Landscape as defined by map 55 on page 322.

7 I find it difficult to believe that no areas were considered unsuitable for coal leasing based on Criteria 15 (p.654). Did the BLM consult with the Wyoming Game and Fish Department in determining suitability on big game winter ranges?

P. 164 - Off-Road Vehicle Management - I support the preferred alternative with the addition of a policy requiring rehabilitation of geophysical roads and any road causing resource damage.

8 P. 174, Appendix 9-5 and Glossary - Vegetation Management - I believe a policy of allowing no more than 10 percent of antelope and mule deer winter range to be treated in a 10 year period is too restrictive. Many winter ranges in the Resource Area are old and past their productive prime and should be treated. While I believe the BLM is attempting to protect winter range with this restriction, the effort is misguided.

9 The same is true for burning next to perennial streams. Often it is necessary to burn these areas to promote new growth of willow and aspen.

176

10 The narrowleaf cottonwood community is a vegetation resource which been much abused in the past and receives little attention in the draft RMP. More attention should be placed on directing management toward insuring its continued existence and reestablishing historic communities. Also see Fire Management comments above.

11 The term "growing season" as it relates to post-burn grazing rest should be defined in the glossary.

12 P. 176-180 - Watershed/Soils Management - The document is very carefully worded to avoid specifically mentioning the largest single contributor to watershed management problems in the area - livestock grazing.

13 P. 180-182 - Wild Horse Management - How are feral horse population levels determined? What kind of correction factor is applied to the number counted in order to estimate population size?

I oppose development of new water sources for horses or livestock on wildlife crucial winter ranges. If horse numbers are such that they are causing range problems around existing water sources then there are not too few water sources but too many horses.

14 P. 182-185, 427, 481, 499 - Wildlife Management - The document states (on pages 481 and 499 among others) that there is adequate forage for 1989 Wyoming Game and Fish Department Strategic Plan Objective levels. What data is this based on?

It is my understanding that the BLM has not had the staffing to adequately monitor the range resource. Yet the document implies that this has been done. These statements are blatant falsehoods which deceive the public into believing the BLM has more habitat/range data than it really does.

15 WGFDP objectives are based on public demand within the limits of habitat capability. In other words the department attempts to satisfy the public up to the point that habitat damage is observed by the Department or documented by the land management authority. Because of ever changing conditions (ie. winter severity, precipitation, forage production, etc.) and the lack of habitat data available from the land management agencies it is my opinion that there is no such thing as a "carrying capacity" available to assist in the setting of objectives. The BLM implies in the RMP that this information exists and that the 1989 strategic plan objectives conform to it. This is not true.

16 The statements made on page 499 regarding the Sublette antelope herd objective and the impact to the range are entirely false. While the objective has been raised from 19,400 to 30,000 the actual antelope population was decreased to achieve the 30,000 level.

The 19,400 objective was not habitat based but was simply what managers thought were there at the time the objective was originally set in the late 1970's. In reality there were at least double that number of antelope on the ground at the time. Improved population estimation techniques have resulted in the change in numbers. Thus the objective change was really only a paper change not an increase in the antelope population.

Comment Responses

176-4 See response to comment 171-7. As stated in that comment and under current BLM policy, evaluation of monitoring data must determine active preference.

176-5 Development of water on crucial winter ranges has been addressed in this document. We didn't want to put a statement eliminating all development because in some cases you may need this for a tool in either livestock or wildlife management. We did say, however, that any water development in crucial wildlife areas has to benefit wildlife. Protection of springs and seeps, ponds, and reservoirs are important and will be considered on a case-by-case basis. See Glossary for definition of riparian.

176-6 Not all of the areas need to be closed to leasing. An interdisciplinary team reviewed those areas and assessed which could and could not be leased. The team also identified what appropriate mitigation could be applied to the leases. Where there are very sensitive resources, we have recommended either no leasing or no surface occupancy.

176-7 The Coal Screening done on the KRCRA in the 1980s was with full consultation of the Wyoming Game and Fish Department. The Elk Butte Tract, Pio Tract, and Beans Spring Tract were classed as "suitable pending further study." The Wyoming Game and Fish Department area biologist recommended a similar classification for tracts north of I-80; however, the Cheyenne office of that Department said there was inadequate information to justify the designation.

The BLM did formally consult with the Wyoming Game and Fish Department concerning coal leasing. No areas were considered "unsuitable" and only the Beans Spring and Cooper Ridge areas were considered "suitable pending further study." Note that the management prescription for coal mining in crucial winter ranges would require that adequate crucial winter range be maintained. Controlled timing and sequencing of development would be required to accomplish this.

176-8 Thank you for your comment. The purpose for this restriction on vegetation treatment is (1) to provide a measure of protection to identified winter ranges and reduce the chances of big game pioneering into new areas and (2) to develop various plant community age classes. We have no "data" which indicates "many winter ranges are old and past their productive prime," although some may have less value now than if they were in a different seral condition.

176-9 Our plan is to make sure riparian and uplands in relation to perennial streams are not treated at the same time. A buffer must be left in most cases to make sure a major event doesn't put the upland areas in the perennial stream. If we burn an upland area, we leave the riparian area alone until the upland has revegetated so we have a filter or vice-versa. Also see response to comment 16-54.

176-10 Re-establishment is going to happen only with cottonwood planting. Cottonwoods need flooding to regenerate, and dams inhibit this occurrence. The Wyoming Game and Fish Department states that the cottonwoods on the Green River are on their way out due to the lack of flooding. As grazing becomes more controlled on riparian areas, we should be able to re-establish some cottonwood communities.

176-11 See Glossary in the RMP Final EIS.

176-12 Thank you for your comment.

176-13 See responses to comments 11-1 and 16-72.

176

This same dilemma is true for all wildlife for which population size has been estimated for the last half century. While it would appear populations have steadily increased in a linear or even exponential fashion, the truth is that populations have increased, decreased or fluctuated with little correlation to published population estimates. A good example is for mule deer. If one graphed population estimates over the last 50 years, the graph would show a linear increase in the population. However, it is apparent that mule deer populations today are significantly lower than in the 1950's and 60's (Gasson 1985, appended).

Through technology, society has advanced from treating disease by bleeding the patient to the use of miracle drugs that cure cancer or prevent polio. The science of wildlife management is no different. Population estimation techniques have improved over time and there is no reason to use outdated and discredited wildlife information any more than to use bleeding as a treatment for disease.

In recent years the BLM and various interest groups have used outdated population estimates to "prove" that range conditions have improved and development activities have had little impact on the land's ability to support wildlife. In large part the wildlife increases these faulty data portray are not real. It is irresponsible for the BLM especially to flaunt such figures as fact.

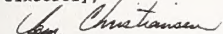
P. 427 - There is no reason to not use current wildlife population objectives and estimates. 1990, 91 and 92 figures for such things as trona production, coal mine employment, mineral assessment, wild horse population, fire history, sensitive plants and air quality are used in the document. 1992 wildlife objective and population data is available and could be easily inserted into the document to make it as up-to-date and useful as possible.

P. 185-200 - Special Management Areas - I support alternative C regarding special management areas.

I especially support the idea of protecting the Steamboat Mountain area. However, I am concerned with the single species emphasis the BLM has placed on areas such as this in the past. In this case the wording in the RMP makes it appear that elk are the only species of interest. For the Little Mountain Project the BLM used the Colorado River cutthroat trout to rationalize the BLM's support and participation. Recent developments within the BLM acknowledging the value of ecosystem management are positive. I recommend the BLM continue to recognize the value of biodiversity and ecosystem management.

Again, thank you for the opportunity to comment.

Sincerely,



Tom Christiansen

Comment Responses

176-14 This statement is based on past history of the range's ability to carry greater numbers of all classes of wildlife. Big game browse transects read (from the early 1970s until the mid-1980s) on a variety of shrubs indicated many shrub stands were mature or decadent. Utilization of current annual growth on these shrubs seldom exceeded 35% (except in riparian areas which were used by moose and cattle). With the lower objective levels and lower populations of big game of today, browse use seldom exceeds 30% of current annual growth; therefore, there appears to be ample forage for Strategic Plan Objective numbers of big game.

Some range surveys are done annually (e.g., photo trend plots, utilization cages) while others such as production, composition, and trend data are collected periodically, with some performed only once. Some of the information is not used until AMPs are updated or written with new objectives. Range information is not collected in custodial pastures.

176-15 Thank you for your comment.

176-16 The Sublette antelope objective will be changed in the RMP Final EIS. This is the only objective WGFD has asked be changed at this time.

176-17 BLM policy recognizes the importance of biodiversity and ecosystem management in maintaining or improving the health of the land.

177

Medicine Wheel Alliance/Associated

With Northern Cheyenne Cultural Commission

PO Box 37, Huntley, MT 59037 406-348-2079

P.O. Box 766, Ft. Washakie, WY 82514 307-332-7436-wise

April 19, 1993

Renee Dana, Team Leader
Bureau of Land Management
P.O. Box 1869
Rock Springs, WY 82902

RE: DRAFT RESOURCE MANAGEMENT PLAN AND EIS FOR THE GREEN RIVER RESOURCE AREA.

Dear BLM:

The Medicine Wheel Alliance would like to go on record for our Board Member Haman Wise, Shoshone Tribal Representative and the other members of the Board and voice our concerns for this area.

1 Without critical ethnographic work and archaeological work "we" would like to know how you can make determinations for any of this area. There are several areas that should be designated to the National Historic Register as Traditional Cultural Properties under the Historic Preservation Act. Why is it that the cultural resources of an area are always considered "last"? This whole area is considered very important culturally to the Shoshone peoples and not just the Wind River Reservation Shoshones.

Under Cultural, Natural History and Paleontological Resource Management the objectives for management of cultural resources are:

- (1) expand opportunities for scientific study, and educational and interpretive uses.
- (2) protect and preserve the "most" important cultural resources for future generations;
- (3) resolve conflicts between cultural resources and other resource uses;

and of particular concern would be significant sites of historic and prehistoric human habitations, sites demonstrating unique ethnic affiliation, places having special spiritual or religious significance to Native Americans, and vertebrate fossil localities.

2 I think in reading this part your understanding of cultural resources and their importance to Native peoples is lopsided. To them the spiritual nature of land cannot be in just certain sites

177-1 While the BLM agrees that extensive ethnographic studies would be extremely helpful in our management of sites that are important to Native Americans, and even to other kinds of resources, that level of study is beyond the scope of this RMP. The BLM contacted representatives of four tribes that are known to have had extensive historical contact with the Green River Basin: the Eastern Shoshone, Shoshone-Bannock, Northern Arapaho, and the Ute tribes, as well as the Medicine Wheel Alliance. We specifically asked for input from all these groups. Two spiritual leaders of the Eastern Shoshone tribe responded. Their comments were very helpful and were taken into consideration in our determination of the Preferred Alternative especially where rock art sites were concerned. We also spoke with them about several specific sites that they, and the BLM, recognize to be of special importance including a Native American burial site. Some of these sites are being specially managed but are not being discussed in the RMP because of their extremely sensitive nature. Also see response to comment 15-1.

177-2 You point out obvious differences between the generalized EuroAmerican philosophy and mind set and a seemingly generalized Native American philosophy. Unfortunately, all too often there is little that a land use planning document can do to reconcile these differences. We will continue to solicit input from Native Americans in our planning processes and will attempt to accommodate their concerns when appropriate. Also see response to comment 177-1.

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page 2

or places and they would place more importance on places having spiritual significance than on any parts of 1-2 or 3.

For these reasons we must join others in requesting certain areas be set aside but with extra significance for their spiritual significance to Native Peoples and the work started to have Traditional Cultural Properties designated.

- 3 RED DESERT PROTECTION: We support the Sierra Club and Wyoming Outdoor Council in seeking legislative protection in the form of a National Conservation Area. This area should not be managed for multiple use but be set aside and protected for the unique area it is.
- 4 SOUTH PASS HISTORIC LANDSCAPE: We support the designation of this 87,540 acre area the South Pass Historic Landscape an ACEC. This entire area should be off limits to all new major utility corridors, roads, and rights of way; coal mining, oil & gas leasing and development should be prohibited. ORV use should be restricted to designated roads and trails.
- 5 STEAMBOAT MOUNTAIN: We support the BLM's designation of 43,010 acre and ACEC. We urge you to prohibit all coal and hard rock mineral mining, oil & gas development and other surface disturbing activities in this area.
- 6 MONUMENT VALLEY AREA: MWA uses you to designate this 64,300 acre area and ACEC. We also support Alternative C with mineral leasing & mining in this area be prohibited.
- 7 PINE SPRINGS: MWA feels until this whole area is surveyed with an archaeological Class III survey and ethnographic studies be done that a minimum of at least 7,000 acres be set aside and national Historic Register Status be aquired for this area.
- 8 GREATER SAND DUNES: MWA would support Alternative C with the following changes. The entire 41,640 acre ACEC be closed to all forms of mineral development including, coal, oil & gas, sodium, and hard rock minerals. The ACEC should be off-limits to additional utility corridors.
- 9 This planning area contains nine known threatened plant species of which five are "extremely vulnerable to extinction globally" therefore we must support Alternative C, which designates another 31,340 acres of known and potential habitat and ACEC.

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page 3

- 10 MWA strongly supports all twelve Wilderness Study Areas that are not set aside by congress be designated ACEC. These all have unique features requiring special management attention.
- 11 The Medicine Wheel Alliance must object to the failure of BLM to retain visual resources. These are extremely important when vision questing and also as area of cultural identification. In going through this document a 1/4 mile buffer zone on rock art site is not enough. The only way these boundary limits could be surveyed "so to speak" is by placing qualified Native Americans on the ground and having them look over the area to be disturbed.
- 12 Recreation uses of the land must be sensitive to spiritually significant area of Native Americans. This again can only take place when YOU know what is out there and where areas of significance are.

Sincerely,

Nicol
Nicol Price
coordinator

Comment Responses

177-3 Thank you for your comment. BLM does not have any process or authority to form a National Conservation Area.

177-4 See response to comment 97-4.

177-5 See response to comment 27-17.

177-6 The BLM does not have satisfactory detailed resource information on the Monument Valley area to designate it as an ACEC. This area has been assigned a priority for resource inventories in the next few years.

177-7 Thank you for your supporting comments. An implementation plan will be prepared following approval of this RMP and site specific Cultural Resource Management Plans will be prepared for a number of sites including the greater Pine Springs area. We will keep these comments in mind and try to prioritize this area for future inventory at the Class III level. See also responses to comments 177-1 and 177-11.

177-8 Thank you for your comment.

177-9 Thank you for your comment.

177-10 See responses to comments 94-3 and 129-6.

177-11 Yes, we agree. Consequently, all petroglyph (rock art) sites are being re-evaluated on a visual basis instead of the arbitrary 1/4 mile buffer. The Preferred Alternative would create a 1/2 mile area around several rock art sites within which the visual resources, as seen from the rock art site, will receive special management consideration. The 1/2 mile distance was in fact suggested by two spiritual leaders from the Shoshone tribe. These two individuals were the only tribal representatives who responded to several invitations that were sent to four Native American tribes who are known to have used the Green River Basin. Also see response to comment 179-1.

177-12 Thank you for your comment.



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March 30, 1993

WESTERN WYOMING
COMMUNITY COLLEGE
ARCHAEOLOGICAL
SERVICES

Contract Archaeological
& Historical Cultural
Resources Consulting
Curation Services
Natural History Museum

Renee Dana
Bureau of Land Management
Rock Springs District
P.O. Box 1869
Rock Springs, WY 82902-1869

RE: Comments on the Green River Resource Area RMP

Dear Renee:

- 1 As a professional archaeologist with ten years experience in Wyoming, I have several concerns about the Draft Resource Management Plan for the Green River Resource Area. As a general comment on the formatting of this RMP (and including most others I have seen), I found the content of the document to be difficult to follow and not particularly logically organized. Specific concerns are outlined below.

Historic trails are a resource that is presently handled on a piecemeal, project area-specific basis. I strongly recommend that regional historic overviews be conducted on the Overland Trail and the Expansion Era road system within the Resource Area. This would allow the integrity of specific segments of trails to be evaluated within a larger regional context. This would greatly expedite permitting processes for developers by identifying contributing and non-contributing segments of individual trails as well as providing data for the regional syntheses.

Regarding the Oregon Trail segment extending west from South Pass, I feel that withdrawing the area within the watershed of the trail from potential mineral exploration is a logical approach towards enhancing the character and integrity of setting. In view of the increased pressures for mineral extraction within more productive portions of the Green River Resource Area, excluding this small area would have only minimal impacts on energy extraction and serve to preserve this pristine area for future generations.

P.O. BOX 428
2500 COLLEGE DRIVE
ROCK SPRINGS
WYOMING 82902-0428
(307) 382-1666
FAX (307) 382-7665

Comment Responses

- 178-1 We sympathize with your comments concerning the structure of NEPA and FLPMA documents. The wide variety of resources dealt with in this RMP makes it difficult to comply with Council on Environmental Quality regulations for Environmental Impact Statements and still generate an easily readable document. We hope that the Final EIS is somewhat easier to follow. Thank you for your generally supportive comments concerning the Preferred Alternative proposals for regional overviews of historic trails, the generation of synthetic documents to guide cultural resource management in certain portions of the Resource Area such as the Little Colorado Desert, expansion of the Pine Springs ACEC, and management prescriptions for rock art sites. Also see response to comment 97-4.

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Page 2

- 1 Cont'd I strongly support the protection of five areas (preferred alternative - 2500 acres) which contain significant concentrations of rock art. These sites are culturally sensitive and the restriction of visual impacts and surface-disturbing activities in the areas will have only a minimal effect on energy extraction. Rock art sites are increasingly becoming a concern to Native American groups. In southwest Wyoming rock art sites are few in number and limited in areal extent. Showing the same restraint (restriction of visual and surface intrusions) with other rock art sites as they are discovered should result in little overall effect to mineral extraction or development in general. Sensitivity expressed by BLM at this point in the planning process can only help in future conflicts.

The preferred alternative calls for the generation of synthetic documents in areas which previously have been subject to extensive amounts of archaeological inventory. In several areas sufficient data has been collected to allow relatively detailed models of archaeological site locations to be proposed. Areas such as the Little Colorado Desert and Nitchie Gulch are particularly amenable to such approaches. Production of these planning documents would allow for development without compromising archaeological resources and also serves to advance our knowledge of the prehistoric inhabitants.

I am also supportive of expanding the Pine Springs ACEC from 90 acres to 6030 acres to ensure protection of the cultural resources in this unique area. The archaeological site around the spring is one of the most important sites in southwest Wyoming. Additionally the history of investigations at the site includes the earliest attempts at understanding the prehistoric occupation of the area.

Thank you for the opportunity to comment on the Green River Resource Management Plan.

Sincerely,

Kevin W. Thompson
Director

KWT:dab

179 FRONTIER ARCHAEOLOGY

Professional Cultural Resource Management Services
811 Big Horn Avenue, P.O. Box 118, Worland, Wyoming 82401
Telephone (307) 347-8848 - Fax (307) 347-8805



December 16, 1992

Ms. Renee Dana
Team Leader
P.O. Box 1869
Rock Springs, Wyoming 82902

Dear Ms. Dana:

We recently received a copy of the Green River Resource Area (GRRA) Resource Management Plan (RMP) and Draft Environmental Impact Statement (EIS). We appreciate the opportunity to comment on this document.

We are pleased to note that cultural and paleontological resources have been identified as an area of concern. In particular, we concur with a number of general management objectives:

1. That sensitive cultural resources such as trails, stage stations and other historic sites, rock art sites and delicate buried prehistoric occupation sites should be inventoried and avoided by land altering activities as well as geophysical exploration.
2. That some geographic areas containing sensitive or important cultural resources such as rock art be protected through minerals exploration withdrawals.
3. That potential ARPA violations be investigated.
4. That paleontological resources be inventoried and assessed for their significance and that mitigation procedures be implemented where land altering activities may impact these resources.
5. That sites of Native American traditional value be identified and managed.

We would also like to highlight several additional concerns which should be addressed in the forthcoming RMP/EIS:

- 2 1. There is a general need for the GRRA to develop a research design for historic and prehistoric cultural resources and paleontological resources to guide future management decisions.
- 3 2. There is a need for the GRRA to implement an active program of site stabilization and remediation for specific cultural resources being damaged or destroyed through natural or human agents.

A part of the Frontier Resource Management Group

Comment Responses

179-1 Thank you for your comments. The BLM does realize that the predominate world view of most Americans and indeed the legal structure that overrides how we prepare planning documents differs dramatically from that of the Native peoples of North America. We are attempting to initiate a dialogue with Native Americans to improve communication. The BLM is receptive to comment from Native Americans, but in many cases is restricted by numerous laws and Federal policies in how accommodating it can be to these comments. Also see response to comment 15-1.

179-2 We agree with your comment that a generalized research design for the Green River Resource Area should be developed. In fact, a research design of this kind is within the scope of the supplemental program guidance that directs how the BLM writes resource management plans. Unfortunately, when we began the process of preparing this document, we had strict deadlines and budgetary constraints that precluded that approach to writing this plan. We believe a major effort to synthesize existing cultural resource data must be undertaken before an adequate research design could be written for the entire Green River Resource Area. It is our intention to continue to work toward both data synthesis and construction of a research design within the context of future site type and specific site cultural resource management plans. Obviously this issue is not unique to the GRRA. In the future we hope to work toward meeting these needs using all available means.

179-3 We agree with your comment. Site stabilization and remediation efforts at specific sites is an ongoing concern in the GRRA. These issues were not mentioned specifically within this RMP simply because they are part of the BLM's required legal mandate under several laws and as such are generally not written into area wide planning documents. We assure you that site stabilization and remediation efforts will continue to be part of the GRRA cultural resource management program.

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Ms. Renee Dana
December 16, 1992
Page 2

Thank you for your consideration of our comments. Please do not hesitate to contact us should you have questions or if we may be of assistance.

Respectfully,

William C. Prentiss, Ph.D.
Projects Coordinator

WCP/kbe

180

March 2, 1993

Renee Dana
Team Leader, Bureau of Land Management
Rock Springs District
PO Box 1869
Rock Springs, WY 82902

Dear Ms. Dana:

The following comments are made in reference to the Green River Resource Area Draft Management Plan and EIS, Volume I.

The preferred alternative is a generally well developed management plan, with some exceptions. Those exceptions are as follows:

(1) Management proposals for the historic South Pass area fall far short of the protection needed to preserve the historic integrity of the area. I wrote to Mr. Bill LeBarron, Green River Resource Area Manager, on November 13, 1992. In my letter I pointed out that the reason the Altamont pipeline became an issue was because neither the Lander Resource Area Management Plan nor the Green River Area operating plan expressly stated that a utility corridor did not exist in and through the South Pass area. The Federal Energy Regulatory Commission, which did the environmental impact statement for Altamont, saw that loophole and used it. In the FEIS at page S-31, FERC said, "The proposed route (through South Pass), as modified, is not inconsistent with the current planning decisions of the affected BLM resource areas." FERC went on to state in the FEIS, Comments and Responses, FA-70, "We disagree that use of the Altamont proposed route constitutes the establishment of a 'utility corridor.' Utility corridors across federally administered lands are designated as a result of a formal planning process which is adopted into a resource management plan or plan amendment." (My emphasis added.) You are now in that planning process.

Therefore, if the historic South Pass area is to be adequately protected from the intrusions of utility corridors of any kind, the RMPs must plainly state what is intended. It would seem to me that in this case, two things must be plainly stated:

(1) There shall be no utility corridors established in and through the South Pass-Continental Divide Area. Those utility systems already in existence, namely, a high-voltage electric transmission line, a buried AT&T communication cable, and an abandoned railroad grade, will be grandfathered into the plan. Those systems will be removed and reclaimed at some time in the future.

(2) A utility corridor is hereby declared to exist along the corridor already established by the Frontier Pipeline which enters

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Green River 2

the Green River Resource Area in T25 N, R97W. (This is shown on Map 8, page 137, Preferred Alternative.)

Another way to approach the problem would be to use language similar to that appearing in this Draft Plan. It is plainly stated at page 135 that, "An avoidance area for major utility lines would be located along I-80..." A statement regarding the South Pass Area could simply state, "An exclusion area for major utility systems is located in the South Pass-Continental Divide Area of Fremont County. No corridors shall be allowed in the entire area."

The wording of the preferred alternative (as stated on page 121) is not acceptable. To propose that there would only be an avoidance area for 1/4 mile or the visual horizon on either side of the Oregon Trail is ridiculous. Even worse is the statement that "development activities such as roads, pipelines, and powerlines could be considered..." This is an open invitation to such companies as Altamont to proceed with business as usual. This is the kind of loophole which Altamont took to advantage in proposing their large pipeline.

To the credit of the proposed plan, a South Pass Historic Landscape is recommended. However, it is not nearly large enough to accomplish the purpose of protecting the viewscape. The Alternative C recommendation is more adequate but even it still falls short. The landscape should also include the area to the north and west of Highway 28.

The management objective for the South Pass Historic Landscape (page 82) sounds good but then the accompanying proposals in the preferred alternative fall short. All the Alternative C proposals on pages 82 and 83 would be far better and should be adopted. In addition, the entire Oregon Trail corridor for a mile on each side should be closed to mineral location.

The Bureau of Land Management must become much more responsible in management of the historic trails on public lands. Failing that, the public will look to other government agencies for recourse.

(2) Map 25 on page 181 shows a huge area in which there is ostensibly to be no wild horse management. Let's get real - there are wild horses there. Why was this large area ignored? Was it to accommodate livestock grazers? The area should be recognized as a wild horse management unit.

(3) Native American rock art and cultural sites should be protected by a one-mile buffer zone rather than the 1/4 mile. The Alternative C recommendations are far better and should be adopted (see page 23).

(4) The Alternative C recommendations for commercial forest

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Green River 3

lands (page 26) should be adopted.

(5) Alternative C for withdrawals/classifications should be adopted in place of the preferred alternative, as shown on page 31.

(6) Livestock grazing management should be designed to enhance wildlife, wild horse, watershed, and soils objectives as stated in Alternative C, page 32.

Anticipated actual use of AUMs should be held to about the 180,000 until and unless some miraculous recovery of the forage takes place.

The recommendations for fences should follow Alternative C as shown on page 35.

The unallotted forage recommendation for Alternative C (page 37) should be followed.

The goals for reducing damage to and restoring riparian areas (pages 32 and 145) are good. The idea of more herder (cowboy) control and fewer (or no fences, page 146) are also very good.

(7) Big game crucial winter ranges should be closed to coal leasing and development as recommended in Alternative C, page 41.

(8) Alternative C recommendations on ORV management, page 49, should be followed, as should the recommendations for vehicular travel on page 50.

(9) Alternative C recommendations on recreation opportunities, page 51, should be adopted.

(10) Candidate plant species, as well as the threatened and endangered, should be protected to the fullest extent possible. The Alternative C proposal as shown on page 67 should be adopted. BLM plans should in all cases be aimed at promoting and protecting biodiversity.

(11) The management objective for the Red Desert Watershed Area should follow the Alternative C proposals on pages 81 and 82.

(12) I commend the proposals for management of the Steamboat Mountain ACEC and the Sweetwater River.

There appears to be an ever greater and growing need for more enforcement of ORV regulations. The violations of wilderness and other restricted areas should be a matter of some concern. Better monitoring of livestock grazing would also benefit the public lands.

Thank you for this opportunity to comment.

Sincerely,
Tom Bell
Tom Bell

180

April 19, 1993

Renee Dana
Team Leader, Bureau of Land Management
Rock Springs District
PO Box 1869
Rock Springs, WY 82902

Dear Ms. Dana:

I wish to add to my earlier comments of March 2, 1993, in regard to the Green River Resource Area Draft Management Plan and EIS.

1 Please add that consideration should be made to a land swap or land purchase of the two 40-acre parcels privately owned at the Dry Sandy Stage Station, T27N, R103 W, Section 29.

Thank you.

Sincerely,
Tom Bell
Thomas A. Bell

180-1 Thank you for your comment. The BLM agrees that acquisition of the SW $\frac{1}{4}$ of the SW $\frac{1}{4}$ of Section 21 and the NE $\frac{1}{4}$ of the NE $\frac{1}{4}$ of Section 29 of T. 27 N., R. 103 W. (40 acres) would be in the public interest. These parcels include important historic trail resources. The BLM will add these areas to the list of areas that would be considered for acquisition under a willing seller/willing buyer situation. The BLM would not use powers of condemnation to acquire these parcels.

26 February 1993

Ms. Renée Dana
Team Leader
Bureau of Land Management
Rock Springs District
P.O. Box 1869
Rock Springs, WY 82902

Dear Ms. Dana:

1 In regard to Green River Resource Area - Resource Management Plan and Draft Environmental Statement - 1992 sent to me by your office for comments on the paleontological aspects of the report, I have two important comments. First, the management objects for dealing with paleontological resources (in particular vertebrate paleontological resources) appear well stated, although I suggest that you recognize that along with all vertebrate fossils certain invertebrate and plant fossils may also be significant in certain instances and should be protected. Secondly, and more importantly, I feel that this report is woefully inadequate with regard to its presentation of the paleontological resources present in the resource area. Whereas the Washakie, Green River and Bridger formations are known to contain vertebrate fossils and are mentioned in the report, there are many other units that are ignored; in particular those of the Cretaceous Period. The Cretaceous formations that crop out in the resource area have been known since the 1800s to contain important vertebrate fossils. Current research continues on fossils from these units today. I have included reprints of two papers that deal with the important paleontological resources from Late Cretaceous units in this area.

It is necessary to have clear, consistent legislation in effect to protect vertebrate fossil resources on public lands. Public land management agencies should be commended for their energies in the management and protection of these resources. Because vertebrate fossils are unique, nonrenewable, scientific resources, the protection of this material is a critical concern. Fossils are the basis for our understanding of past life and environments, and as such, provide valuable information. Cooperation between scientists and public land managers allows for better management policies and understanding of vertebrate fossils. As in the past, I will be happy to help the BLM access the resource potential of a particular area in Wyoming. If a literature search is done, you will find that the important paleontological units in the Green River Resource Area not only include those units in the Tertiary Period (some of which were not even mentioned), but many of the richly fossiliferous formations of the Cretaceous Period.



Ph. (307) 766-3386

FAX (307) 766-6679

Comment Responses

181-1 Thank you for your comments and suggestions. The Code of Federal Regulations (43 CFR 8365.1-5) allows reasonable hobby collecting of **common** invertebrate fossils on public lands; these same regulations prohibit the unauthorized destruction or removal of any scientific resource. We recognize that there are other fossils besides vertebrate fossils that have the potential of being scientifically significant, and that the BLM has the authority to deal with such instances. If you know of any specific occurrences in the Green River Resource Area that should be brought to our attention, please contact the Green River Resource Area office.

We appreciate receiving the publications you have forwarded to us, and we have incorporated some of this information into the Environmental Impact Statement. The section in Chapter 3 entitled "Paleontology" has been rewritten to make it clear that this part of Wyoming is an area of continuing and active research in paleontology.

Please be assured that the proper protection and management of paleontological resources is a priority with the BLM. The Federal Land Policy and Management Act of 1976 requires the BLM to manage and protect the "scientific" values of the public lands (including paleontology). The Wyoming State Office now has a paleontologist on staff to assist in the accomplishment of this goal. Please contact us if you have any further suggestions for the proper care and management of these valuable scientific resources.

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(2)

If you have questions or require further information, please feel free to contact me.

Sincerely yours,

Brent H. Breithaupt
Museum Curator
Geological Museum

cc. Mr. Ray Brubaker
Dr. Laurie Bryant

enclosure: Reprints

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Wyoming Field Office • 258 Main Street, Suite 200 • Lander, Wyoming 82520 • (307) 332-2971 • Fax (307) 332-2974

WY Public Lands Program ** 655 N. Cedar ** Laramie, WY 82070 ** (307) 721-4909

February 26, 1993

Renée Dana, Team Leader
Bureau of Land Management
Rock Springs District
Box 1869
Rock Springs, WY 82902

Dear Renée:

Chris Garber, zoologist with the Wyoming Natural Diversity Database, and I have completed our review of the Green River Resource Area Draft Resource Management Plan and Environmental Impact Statement. The following comments pertain to those documents.

- 1 Candidate Plant Species Management** Both Alternative C and the Preferred Alternative are good in terms of protection of plant species of concern. However, Alternative C is a better approach in that more habitat is withdrawn from oil/gas leasing (vs. open to leasing with NSO stipulations); withdrawal is a more effective means of protection. We support the designation of a candidate plant species ACEC as a significant step towards prevention of listing of these species (Alternative C and Preferred Alternative). The BLM has done well in recognizing that boundaries and management needs may change as additional information becomes available. We also endorse acquisition of additional acreage at Pine Butte for protection of the globally-rare Wyoming tansymustard (*Descurainia torulosa*).
- 2 Wildlife Management** The treatment of Threatened, Endangered and Candidate animal species is weaker than it should be. Quite a few species of concern were omitted. Included with this letter is a list of 19 T/E/Candidate species documented for the Green River Resource Area. Additional information can be obtained from WY Game and Fish, and from the Wyoming Natural Diversity Database (see address and phone number at top of list). Even if there presently is too little information to determine appropriate management actions for these species, they should be recognized as species of concern, and the need for additional information should be identified. BLM is mandated to manage for C1 and C2 wildlife species. Impacts to these species should be assessed in considering other management actions. For example, reduction of high density sagebrush to benefit livestock could have detrimental effects on pygmy rabbits, which depend on this habitat type.
- 3** The RA contains several significant sage grouse wintering areas. These areas should be mapped and incorporated into the RMP. Again, impacts of other management actions should be assessed as explained in the preceding paragraph. The same example holds for sage grouse as well: high density sagebrush is critical for sage grouse winter range.
- 4** We have serious concerns about the proposal to introduce non-native animal species (Preferred Alternative as summarized on page 66). Such actions can have unforeseen, long-reaching effects, and should not be considered.
The Plan does well in recognizing the need for inventory of fishery habitat, wetlands and certain wildlife species.

National Headquarters • 1815 N. Lynn Street • Arlington, VA 22209 • (703) 841-5300
revised

Comment Responses

183-1 Thank you for your comment. See response to comment 94-5.

183-2 See the Biological Assessment for Threatened and Endangered Species discussion (Appendix 14 of the Final EIS).

183-3 We have very little information about sage grouse wintering areas. If you have information, please send it to us. Long-term plotting of wintering flock observations by BLM have found only a few areas which are regularly visited and could be designated.

183-4 BLM does not reintroduce animal species. However, we would be involved in habitat identification and effects. The effects of introducing species are rarely known with certainty; they can out-compete native species, displace them, remove food sources for species throughout the food chain, and disrupt the entire ecosystem. Introduction of non-native insects for biological control can be especially disruptive to the native insect species, and could obliterate the food source for invertebrates, neotropical birds, small and large mammals, and could prove disastrous for native plant species dependent on certain moths, butterflies, or other insects for pollination. An entire ecosystem cannot be expected to adapt to non-native species within a short span of several years or even several decades, when natural adaptations have required hundreds and thousands of years. Because of the concerns, there would be careful analysis and public input.

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Thank you for the opportunity to comment on the Plan and EIS. If you have any questions concerning our comments, please contact either Chris (766-3441) or myself (721-4909).

Sincerely,

Hollis Marriott
WY Public Lands Coordinator

184



Wyoming Natural Diversity Data Base
3165 University Station
Laramie, Wyoming 82071
(307) 766-3441

2 March 1993

Renee Dana
Team Leader
Green River Resource Area
P. O. Box 1869
Rock Springs, WY 82902

Dear Renee:

- 1 I wish to comment on the provisions for the management of Candidate Plant and Threatened and Endangered Plant Species in the draft Green River Resource Area RMP. After reviewing the preferred, no-action, and two alternative plans, I believe that the Preferred Alternative is the best one for balancing the needs of sensitive plant species with other multiple use activities.

Under this alternative, the 440 acres of known habitat of the four rarest species in the Resource Area (*Arabis pusilla*, *Astragalus proimanthus*, *Descurainia torulosa*, and *Thelesperma pubescens*) will be sufficiently protected from all surface disturbances. Alternative C, which would protect additional potential habitat from oil and gas leasing, is a worthy consideration, but is probably not necessary if the no surface-occupancy stipulations of the Preferred Alternative are adopted for those lands. Designation of these essential habitats as Areas of Critical Environmental Concern should occur to formalize the protective management activities already being recommended in the Preferred Alternative.

- 2 The only concern that I have with the Preferred Alternative (and the other Alternatives as well) is the vague wording regarding the designation of new candidate plant species for protection or the de-listing of existing candidates. Such decisions need to be made in consultation with the Rock Springs District Botanist and should involve input from the botanical and scientific community. It is a potential concern that such decisions will be made without the input of scientifically sound information, with the potential result that deserving species may be left unprotected and less-deserving candidates may receive

1

Recycled Paper

Comment Responses

184-1 See response to comment 94-5.

184-2 The wording of the plan has been changed to be more clear on the designation of new candidate plants and their de-listing. We will work in coordination with U.S. Fish and Wildlife Service when adding new species or populations to the ACECs, or when eliminating them from the need to be an ACEC. The plant lists are frequently updated, generally through information received from The Wyoming Natural Diversity Database of The Nature Conservancy.

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unnecessary protection. I recommend an annual or biennial "review" of existing and new candidate species to keep the roster of protected species as current and scientifically defensible as possible.

- 3 In total, I am pleased with the level of protection afforded sensitive plant species in all of the alternatives and am impressed with the amount and quality of the information presented in the draft RMP. I believe that the Preferred Alternative strikes the best balance between the different multiple-use activities on the Resource Area, and is the alternative that I endorse.

Sincerely,

Walter Fertig
Heritage Botanist
Wyoming Natural Diversity Database

cc: Barbara Amidon

2

184-3 See response to comment 94-2.

185

April 10, 1993

Renee Dana, Team Leader
Bureau of Land Management
P.O. Box 1869
Rock Springs, Wyoming 82902

Following are comments by Dick Randall, Field Consultant for The Humane Society of the United States, concerning the "Draft Resource Management Plan Environmental Impact Statement" for the Green River Resource Area.

I was appointed as wildlife representative to the BLM Multiple Use Advisory Council by Interior Secretary Cecil Andrus. I was re-appointed to a three year term by Interior Secretary James Watt.

The thing I remember most concerning my years serving on this council concerned management framework plans. We spent many hours and many trips to the field to reach agreements concerning management of habitat for our wildlife and livestock. The plans were mostly on paper. Most were shelved, ignored, seldom updated, but it was all on paper, which counts?

No doubt, BLM was, and is, understaffed and underfunded, especially in the wildlife, habitat, riparian, and enforcement fields. And they are often cowed by ranchers who beat on BLM desks. However, this EIS spells out many things that can benefit our public land without a great deal of cost. Plain old logic doesn't cost much.

With updates, this EIS will govern management of more than three million acres of public land in this district for the next twenty years.

The status-quo is no longer acceptable to the majority of people who own these lands - the American public. While cows and sheep will remain a part of the use of these lands, no longer will we tolerate destruction of riparian areas and destruction of habitat by cow ranchers whose philosophy is, turn 'em loose and we'll look for 'em in the fall. And guess where they were? The nearest water source, all summer.

1 BLM has noted that 28 out of the 34 "I" Category Allotments have riparian habitat problems or conflicts. Fencing to exclude livestock would be one answer to this problem. However, fences are detrimental to many species of wildlife. A less expensive solution to taxpayers would be to require ranchers to keep livestock away from riparian zones, and if they do not, bill them with a trespass fee.

2 We ask that BLM identify locations of illegal or non-standard fences that exist in this district. Further, please include BLM's time-table as to when these fences will be modified or removed and who will be pay the costs.

2

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One doesn't need to have a degree in various sciences that have to do with plants, habitat, erosion, overgrazing, to determine what is occurring on much of our public land in this resource area.

Take for instance Seedskadee National Wildlife Refuge. Go to where the lower Seedskadee fence excludes livestock on the Green River. Look upstream. A veritable oasis. One can hardly see the river banks for the vegetation. Look downstream. Bare river banks, denuded by livestock, crumbling into the river, carrying phosphates and nitrates down to Flaming Gorge, creating huge alga blooms - which decimates the fisheries that provides big bucks to Sweetwater County.

Look across the road where Seedskadee fenced a section to keep out livestock. Inside the fence it's beginning to heal. Out-side, cow pies dominate the landscape. The grass is greener on the other side of the fence, and that is where the cows congregate, looking over the fence.

Then take a look at the lower Big Sandy River. If the BLM and the ranchers management plan is to strip this part of the river of vegetation and replace the willows, trees, grass, with cow pies, they have succeeded.

Since 1974, on the lower Big Sandy River, various organizations and volunteers have planted nearly 5000 trees to help stabilize river banks, to enhance the area for wildlife, and to return the Sandy river to what it looked like before the cows and sheep took possession. Of course, the area resembles what it looked like before we started. The cows and sheep ate it.

Cows, and sheep, and the BLM, have won, hands down. No more waste of time, dollars, labor, by volunteers, for a project that is doomed for failure by all of the above. On the other hand, if BLM will create a grazing program that will allow trees and willows to propagate, that will trespass ranchers who cut fences, open gates, turn the cows into exclosures, then we greenies will be back.

Include the overgrazed Cooper Basin in this dilemma. BLM has circled many aspen sprouts with wire mesh, to protect them from the cows. A few are making it. Most have been knocked over by cows and the sprouts consumed by these multiple use critters.

Take a look at photos of Ten-Mile Marsh, before Sweetwater County Wildlife Association signed a cooperative agreement with BLM to rehabilitate this area. Then scan the "after" photos. And explain to us neophytes, how could BLM have allowed destruction of this critical marsh area on our public land, by cows. And why were the perpetrators not required to chip in to help heal the wounds?

Starting this spring we will begin documenting, through photography, what is occurring on public land in the Green River Resource Area. It's been said that a picture is worth a thousand words. We trust that the evolution of these photos will show that

Comment Responses

185-1 Herding of livestock to reduce utilization on a riparian areas is greatly encouraged to permittees. Unless an area has been closed to livestock grazing, for whatever reason, no trespass can occur. As evaluations are concluded for individual allotments, certain riparian areas may have maximum utilization limits allowed or be closed to livestock.

185-2 The BLM and the Wyoming Game and Fish Department have identified non-standard BLM fences on public land, most of which are proposed for removal, reconstruction, or modification. In most cases, fence modification will be funded by BLM wildlife appropriated monies, while reconstruction would be funded by range improvement (8100) funds. It will take several years to repair, replace or remove sub-standard fences. Some fences have already been removed in the resource area. A map is available at the Green River Resource Area office.

this Range Management Plan will begin to heal the land.

3 Page 185 refers to mitigating wildlife habitat losses in highly developed areas. Would not the limited amount of dollars BLM is afforded be better spent in enhancing habitat in areas that are not "highly developed?"

I can show BLM aerial photos of the LaBarge oil patch where there are four to six roads leading to each well. Thanks to these developers who care little to nothing about wildlife habitat. Why spend dollars trying to rectify this mess. Instead, lets spend the dollars on enhancing and protecting riparian zones, streams, and rivers.

4 Under Socioeconomic, we learn that the livestock industry contributes a huge amount of dollars to this resource area. Are you aware of a Wyoming economic study a few years back that found that all agriculture in our state contributes about 6% to our state's economy? And that Sweetwater County records show that agriculture contributes 0.2% to Sweetwater County's taxes?

When BLM calculates benefits, dollars, derived from the livestock industry, should not BLM begin by subtracting what it costs to supervise, monitor, the grazing program. You will need a red pencil. Then include taxpayer dollars provided this industry for "control" of predatory wildlife. Add in the dollars required to restore riparian zones, and streams and rivers to resemble what they used to look like, and totals will require more red pencils.

5 APHIS, Animal Damage Control, has been taken to task by the Humane Society. BLM is presently trying to cope. We had a snowy winter. Good for spotting or tracking coyotes from aircraft. Friends have reported watching aircraft kill coyotes, and foxes, in areas where there were no sheep, and the sheep wouldn't be there for a month or so.

And yet, ADC tells us they are only killing critters in areas of "verified" predation. But when pinned to the mat, they tell us that where predation has not been confirmed, they are doing "preventive" control.

Doesn't "verified" and "preventive" add up to the same old kind of predator control that has been around since 1915? Nothing more than a war on a species? BLM employees have told me, they have no idea where ADC is operating, how many of what they are killing, and how many losses to predators are verified.

The new ADC budget may include 35 million government dollars plus state and county contributions. Wouldn't it be of immense benefit to take a small portion of these dollars, put people in the field, not ADC personnel, but rather, biologists, etc., from universities, to verify losses to livestock caused by predation? Say a three or four year program, across the West, on public land.

Comment Responses

185-3 This would not preclude enhancing other habitat areas as well. Priorities would be established to determine the best use of funds.

185-4 Thank you for your comment. Out-of-date information was mistakenly printed in the RMP Draft EIS. Please see the revised information in the RMP Final EIS. Economic tables supplied by Sweetwater County are included in Appendix 10.

185-5 See response to comment 94-19.

Such a program would document, among other things, are losses to predators, including golden eagles, as large as ranchers claim? Or, are reported losses inflated to assure that the taxpayer will continue to provide dollars to kill their wildlife on their land, public land, to benefit a highly subsidized group of ranchers?

While BLM cannot dictate how ADC funds shall be spent, they could recommend that such a program be tried.

Attached: "Chapter IV, First Aid For Cyanide Poisoning." Of course, this refers to mishaps concerning the M-44 cyanide gun. Note, if a small child finds a little stick sticking out of the ground, reaches over and tries to pick it up, and it fires, some of the granules may enter the child's eyes. If so, here's how to proceed:

"...they should be irrigated immediately with large quantities of water for a minimum of fifteen minutes. The eyelids should be held apart during the irrigation to insure contact of water with all the tissues of the surface of the eyes and lids. A physician, preferable an eye specialist, should be called into attendance. If a physician is not available, the eye irrigation should be continued for a second period of fifteen minutes..."

Can you even imagine washing a child's eyes for half an hour, with "large quantities of water?" Oh yes, if things are bad, "Oxygen is recommended." Has anyone polled tourists who visit our public land as to how many carry oxygen. And "amyl nitrite pearl?" If you have been cyanided, you need this to get the breathing going again. A common first aid product found in most glove compartments?

We do not need M-44's on our public land. There are 26 EPA regulations concerning use of this device. If M-44s were allowed in this BLM District, who would check up on ADC personnel to confirm that they are abiding by these regulations?

If M-44s are allowed in this BLM District, and a child, an adult, a dog, is injured or killed by one of these devices, please explain who would be liable for tort claims or other claims. BLM or APHIS?

We support designation of ACEC areas but are concerned that livestock grazing has the potential to impact things that make these areas unique. For instance, if Pine Springs is developed as a water source for livestock, after a few years it would not require a biologist to determine that the Grim Reaper had been there.

Thank you for the opportunity to comment on this extremely important document.

Dick Randall, for The Humane Society of the United States

Dick Randall

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- 1 After learning about the Animal Damage control issue in the Green River Resource Area RMP, I oppose the use of M-44s on public lands. In addition, I would like APHIS and BLM to develop a cooperative agreement to enforce the non-use of M-44s and to adequately monitor compliance.

Charmaine R. Pickett

Signature

7-23-93

Date

Comment Responses

- 186 See response to 94-15. A total of 111 identical postcards were received. One card was altered to read "...for the use of M-44s...."

187

March 16, 1993

Renee Dana, Team Leader
Bureau of Land Management
Rock Springs District
P.O. Box 1869
Rock Springs, Wyoming 82902

Dear Renee:

- 1 I am strongly opposed to any means of predator control on Federal lands and especially to the presence of Animal Damage Control as outlined in the Green River Resource Area Resource Management Plan. I am especially against such barbaric means as denning and aerial gunning.

When you are allowing trapping on Federal lands, do you mean steel jaw traps? That is, of course, another nice, humane way of killing animals. I can't believe humans have the nerve to call coyotes, foxes, and other predators "animals!" Steel jaw traps are abhorrent and should be banned permanently on Federal lands.

I do not feel that M-44s should be allowed under any circumstances as they pose a threat to domestic animals. The public has already spoken out against the use of M-44s on public lands in this District but that doesn't seem to mean much.

Target animals (those causing problems) should be dealt with, but there is no need for indiscriminate killing of animals. I'm sure not all of the so-called predators cause problems, so why allow open season on all of them?

Sincerely,

Dorothy Savage

Dorothy Savage

- 187-1 See response to comment 94-15.



WYOMING 188 OUTDOOR 25 COUNCIL 1967-1992

April 16, 1993

Renee Dana
Bureau of Land Management
Rock Springs District Office
P.O. Box 1869
Rock Springs, Wyoming 82902-1869

RE: Green River Resource Area Resource Management Plan
Draft Environmental Impact Statement

Dear Ms. Dana:

The Wyoming Outdoor Council (WOC) is pleased to submit to you our comments in response to your invitation to participate in the development of the Green River Resource Area Resource Management Plan. Thank you for inviting our participation.

Established in 1967, WOC is a statewide conservation organization that seeks to conserve and enhance Wyoming's environment by educating and involving citizens and by promoting environmentally sound policies and programs. I have enclosed a brief description of our organization for your information.

1 The Draft Environmental Impact Statement and Resource Management Plan ("DEIS") prepared for the Green River Resource Area (GRRA) fails to meet the basic requirements of the National Environmental Policy Act of 1969 (NEPA), 42 U.S.C. 4321 *et seq.*, and Bureau of Land Management (BLM) planning regulations at 43 CFR Part 1600. In addition, the DEIS violates provisions of the Federal Land Policy And Management Act of 1976 (FLPMA), 43 U.S.C. 1701 *et seq.*, the Surface Mining Control and Reclamation Act of 1977 (SMCRA), 30 U.S.C. 1201 *et seq.*, and the Wild and Scenic Rivers Act of 1968 (WSRA), 16 U.S.C. 1271 *et seq.*

First, the DEIS violates NEPA by failing to consider a reasonable range of alternatives to the proposed action, by failing to analyze the environmental effects of the proposed action and alternatives, and by failing to accurately describe the affected environment. Second, the DEIS violates FLPMA by improperly allocating resources within the planning area, by not giving priority to protection of Areas of Critical Environmental Concern (ACEC), by not considering the relative scarcity of the values involved in the GRRA, and by not using an interdisciplinary approach to achieve integrated consideration of the physical and biological sciences. Third, the DEIS violates SMCRA by improperly applying the coal unsuitability criteria and by failing to properly and carefully evaluate potential multiple use conflicts arising from surface coal

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188-1 The coal unsuitability review was applied properly, and multiple use conflicts were addressed through alternatives. The criteria was properly applied for Wild and Scenic River review. Appendix 4 provides the procedures applied in the review. This has been updated in the RMP Final EIS.

It is the policy of the United States to make public lands available for the exploration and production of natural resources while protecting other resource values. Until that policy changes, the BLM must allow for, at least, some resource development; however, this doesn't mean that every square inch must be leased. The interdisciplinary team did apply the relevance and importance criteria for ACECs to resource values in the area. However, resources can be managed appropriately without an ACEC designation.

NEPA requires a reasonable discussion of impacts upon the "human environment" including the natural and physical world. However, discussions of the social and economic impacts are just as important and necessary. In other words, economic, social, natural and physical world, as they exist today, are interrelated and must be addressed equally.

See responses to comments 27-1 and 188-7.

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mining within the GRRA. Finally, the DEIS violates the WSRA by misapplying the eligibility criteria for identifying potential Wild and Scenic Rivers. Each of these issues is discussed below.

2 Your failure to accurately describe the affected environment, to consider all reasonable resource management alternatives, and most importantly, to disclose direct, indirect, and cumulative environmental impacts of the proposal and alternatives frustrates the basic intent of NEPA: "to help public officials make decisions that are based on understanding of environmental consequences, and take actions that protect, restore, and enhance the quality of the environment." See Council on Environmental Quality Regulations (CEQ) at 40 CFR 1500.1. The CEQ's regulations further provide:

NEPA procedures must insure that environmental information is available to public officials and citizens before decisions are made and before actions are taken. The information must be of high quality. Accurate scientific analysis, expert agency comments, and public scrutiny are essential to implementing NEPA.

Id.

These fundamental deficiencies are not correctable merely by addressing them in a Final EIS: "If a draft statement is so inadequate as to preclude meaningful analysis, the agency shall prepare and circulate a revised draft of the appropriate portion." Accordingly, a supplemental EIS, considering a full range of alternatives and disclosing the environmental impacts of each, must be prepared and circulated for review.

ALTERNATIVES

The alternatives section of an EIS is "the heart of an environmental impact statement." See 40 CFR 1502.14. This section "should present the environmental impacts of the proposal and the alternatives in comparative form, thus sharply defining the issues and providing a clear basis for choice among options by the decisionmaker and the public." Id. (emphasis added).

3 The DEIS violates Section 102(2)(C) of NEPA by failing to consider a reasonable range of alternatives with respect to the following resource management issues: lands suitable for coal mining; lands acceptable for coal mining; lands available for oil and gas leasing; mineral withdrawals and revocations; locatable mineral mining; visual resource management; livestock grazing; geophysical activity; fire management; forest management;

188-2 The Affected Environment is a summary of material contained in the Management Situation Analysis (MSA). The MSA contains a more complete record of resources and uses in the Green River Resource Area. This information is on file at the Green River Resource Area office. The impact analysis in Chapter 4 has been revised somewhat to provide a clearer assessment of impacts. However, data are not available to quantify all effects. This document tends to be programmatic in nature, not site specific. The next tier in the planning process provides for more site specific analyses of activities. Acquisition of new information and monitoring will occur during implementation of the land use plan and lead to updated, more thorough analyses.

188-3 See response to comment 27-1. We do not think that the RMP Draft EIS violates NEPA and that we have presented a reasonable range of alternatives.

Wilderness management is not addressed in this RMP EIS but is included in the Final Rock Springs Wilderness EIS (1990).

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management of the Red Desert Watershed Area, and management of wilderness study areas not designated by Congress for inclusion in the National Wilderness System. See 42 U.S.C. 4332(2)(C); 40 CFR 1502.14; 43 CFR 1610.4-5.

The DEIS also violates BLM planning regulations at 43 CFR 1610.4-5: this rule requires that consideration be given to "all reasonable resource management alternatives."

Needless to say, we regard the absence of any substantive discussion of these critical aspect of NEPA and FLPMA analyses a serious and indeed, fatal, flaw in the document.

Lands Unsuitable for Coal Mining

- 4 The process for determining which lands are unsuitable for coal mining is set forth at 43 CFR subpart 3461. DEIS Appendix 3-2 explains how the process was applied for determining which lands within the planning area were determined to be unsuitable for coal mining. We discuss this issue in greater detail in our discussion of "Application of the Coal Unsuitability Criteria."

Unsuitability criteria were applied to lands within the planning area known and thought to have coal development potential: about 475,700 acres. The analysis resulted in a finding that approximately 12,600 acres within the Green River Resource Area (GRRA) are unsuitable for coal mining. See DEIS at Table A3-2.

With the exception of Alternative A, the "no action" alternative (which is by your own admission "provided for purposes of comparison only"), every alternative considered in the DEIS proposes that 12,600 acres be deemed unsuitable for coal mining. Your failure to consider alternatives to this proposal violates NEPA. NEPA requires that consideration be given to a reasonable range of alternatives to the proposed action. See 42 U.S.C. 4332(2)(C)(iii). In concluding that only 12,600 acres within the coal development area are unsuitable for coal mining under every alternative (compared to 28,600 acres in Alternative A), you appear to rely extensively on various exceptions, exemptions, and the inclusion of certain stipulations and conditions in the leases. Note that, under the unsuitability assessment procedures found at 43 CFR 3461.2-1, the application of exceptions and exemptions for each criterion is discretionary. Accordingly, to develop the range of alternatives required by NEPA, and by your own planning regulations cited above, we suggest that you identify lands unsuitable for coal mining by applying the unsuitability criteria and by then making a final assessment concerning the unsuitability of such lands without

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188-4, part 1 Thank you for your comment. It states in 43 CFR 3461.2-1(a)(1) that the unsuitability criteria shall be applied to all coal lands identified by the land use plan as having development potential. A land use plan, such as this Resource Management Plan, can identify which lands will be assessed using these criteria; but, a land use plan does not have authority to change the criteria. This is why the acreages deemed "unsuitable" for coal mining is the same for Alternatives B, C, and the Preferred Alternative. Alternative A has a different acreage because it is a summary of an entirely different land use plan completed in 1982; the lands considered are not the same as the lands considered in this Resource Management Plan.

The Authorized Officer has discretion on whether or not to apply the exceptions and exemptions to these unsuitability criteria. This is the source of the differences between Alternatives B, C, and the Preferred Alternative. Basically, Alternative B assumed that the exceptions would apply and activities could be mitigated appropriately prior to leasing. This was consistent with the intent of Alternative B, the commodity production alternative. Alternative C analyzed the most restrictive management and did not apply the exceptions. The Preferred Alternative is a compilation of Alternatives B and C with appropriate mitigation for mining operations. We feel we have provided a reasonable range of alternatives.

Additionally, some areas were found acceptable for subsurface mining only, thus were suitable for further consideration for leasing without impacts to surface resources. Terminology seems to have added to the confusion. The areas found suitable are available for further consideration for leasing. This does not mean that we will lease all these areas. It does mean that we will consider it and analyze it site specifically with further public involvement, acquisition of additional information, and consultation with the USFWS and Wyoming Game and Fish Department.

Consultation with Indian Tribes, other Federal, State, and local governments was accomplished prior to development of the RMP Draft EIS. The Draft EIS also invites additional public participation.

When the first coal screening process was conducted in 1981, only a portion of the coal area was reviewed under the unsuitability criteria. Since then, more accurate and reliable coal information has been obtained, along with a change in the coal regulations to look at the entire coal potential area. We now look at all areas that have potential for coal development even if they are low potential areas. This differs from the previous process. The lands covered under Alternative A were not off limits to coal leasing, rather they were never reviewed under the coal screening process. Had any of those areas had any interest expressed for coal leasing and development, they would have been reviewed through the coal screening process at that time.

188-4, part 2 Section 3461.2-1(a)(b) appears to indicate that exceptions and exemptions are discretionary. Virtually in all cases, exemptions pertain to valid existing rights, and refer to federal coal leases where mining operations occurred on or before Aug 3, 1977; where legal and financial commitments were made prior to January 4, 1977; or a mining permit has been issued. By virtue of SMACRA, application of exemptions is not discretionary. Exceptions are somewhat discretionary, and we applied exceptions through the alternatives.

The same situation applies to the Multiple Use Analysis, which also differs between alternative A and the other alternatives because of changes in regulations since 1981.

Also see responses to comments 11-6, 11-12, and 16-56.

188-5 See response to comment 188-4.

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applying any exception or exemption. The results of this analysis can then be developed and displayed as a range of alternatives in the revised DEIS.

Of course, NEPA (and FLPMA) requires that the public, Indian tribes, and federal, state, and local agencies be invited to participate in the development of these alternatives.

Lands Unacceptable for Coal Mining

- 5 The process for determining which lands are unacceptable for coal mining is set forth at 43 CFR 3420.1-4(e). Appendix 3-2 (page 656) explains how this process was applied in this instance. The process for determining which lands may be unacceptable for coal mining is referred to as the multiple use conflict evaluation, and its purpose is described in the Code of Federal Regulations:

"Multiple land use decisions shall be made which may eliminate additional coal deposits from further consideration for leasing to protect other resource values and land uses that are locally, regionally or nationally important or unique and that are not included in the unsuitability criteria"

See Id. at 3420.1-4(e)(3).

As a result of its multiple use conflict evaluation, BLM proposes in its "preferred alternative" to close 405 acres within the 475,700 acre coal development area to leasing consideration. Under this alternative, approximately 463,000 acres would be "open" for leasing consideration. See DEIS at Table 2-12. In contrast, 9000 acres would be deemed unacceptable (closed) for leasing under Alternative A, the "continuation of existing management direction" alternative. See DEIS at Table 2-22. Under Alternative A, 76,608 acres would be open to further leasing consideration. See DEIS at 39. No (zero) acres would be made unacceptable under Alternative B and, like the preferred alternative, approximately 463,000 acres would be open for leasing consideration. See DEIS at Table 27 and 39. And under Alternative C, virtually all of the coal development potential area --416,000 acres-- would be unacceptable for (closed to) leasing consideration. Leasing would be authorized on only 47,000 acres. In other words, the preferred alternative and alternatives A, B, and C make 405 acres, 9000 acres, 0 acres, and 416,000 acres unacceptable for leasing, respectively.

The range of alternatives displayed in the DEIS with respect to this issue is, in our opinion, unacceptable.

- 6 Alternative C (the most restrictive alternative) places all special management areas, ACECs, cultural sites, historic mining towns, sites and trails, ROWs, riparian areas, geologic features, and all other areas where a multiple use conflict could potentially occur off limits to coal mining. Because this alternative provides coal leasing opportunities on only 47,000 acres, BLM regards the restrictions as "extremely excessive and unnecessary" and the "resulting degree of lost coal development opportunity . . . an unnecessary and unacceptable impact." See DEIS at 659. Consequently, this alternative appears to have been dropped from serious consideration.

Alternative A, the no action (continuation of existing management) alternative, authorizes leasing consideration on about 76,608 acres of land, but is displayed "for purposes of comparative analysis only" and appears not to have been subject to "rigorous evaluation" as required by NEPA. See DEIS Appendix 3-1 at 643; Appendix 3-2 at 656; 40 CFR 1502.14(a).

Alternative B, which emphasizes commodity production, authorizes consideration of coal leasing on approximately 463,000 acres (virtually the same as the preferred alternative) and concludes, as a result of the multiple use conflict evaluation, that no lands are unacceptable for mining.

In terms of the number of acres of land made available for coal leasing consideration, the preferred alternative and Alternative B are virtually identical. The preferred alternative authorizes leasing consideration on approximately 462,600 acres of land in the coal development potential area, while Alternative B, as discussed above, authorizes leasing consideration on about 463,000 acres, a difference of a mere 405 acres. Because Alternative A has been included in the DEIS "for purposes of comparative analysis only" and because Alternative C imposes "extremely excessive and unnecessary" restrictions (i.e., unreasonable and therefore not likely to be selected by the decisionmaker) the choice among alternatives is limited to either the preferred alternative or Alternative B, and this presents really no choice at all. See DEIS Table 2-1 at 39-47 (comparison of alternatives). Furthermore, even if all 4 alternatives were fully and objectively evaluated (and they clearly were not), such an analysis would not correct the DEIS's basic deficiency; namely, that a reasonable range of alternatives to the proposal (to make almost all coal development lands within the planning area available for leasing consideration) is lacking in the DEIS.

Oil and Gas Leasing Availability

Under the alternative considered "least restrictive,"

- 7 Alternative B, approximately 3,256,060 acres within the planning area would be available for oil and gas leasing. Under the "most restrictive" alternative, Alternative C, a similarly disproportionately large area of land, about 3,099,830 acres, would be available for oil and gas leasing. The difference between the most restrictive and least restrictive alternative is approximately 156,230 acres, or about 4 percent of the 3.6 million acres of federal lands within the planning area. Once again, the DEIS fails to display a reasonable range of alternatives responsive to this issue from which to choose.

- 8 The environmental impacts caused by the development of oil and gas resources can be significant. Yet the DEIS fails to respond to this planning issue by failing to display a full spectrum of alternatives addressing the impacts to wildlife, especially crucial winter range, recreation, scenic values, cultural and historic sites, and other important resources.

- 9 Multiple use does not mean allowing all uses in all areas; in fact, the FLPMA specifically contemplates closing sensitive areas to certain activities:

"The term 'multiple use' means the management of the public lands and their various resource values so that they are utilized in the combination that will best meet the present and future needs of the American people; making the most judicious use of the land for some or all of these resources or related services over areas large enough to provide sufficient latitude for periodic adjustments in use to conform to changing needs and conditions; the use of some land for less than all of the resources"

See 43 U.S.C. 1702(c) (emphasis added).

- 10 A range of alternatives prohibiting oil and gas leasing in some or all of the following sensitive areas should be developed: Cedar Canyon ACEC, Greater Sand Dunes ACEC, Monument Valley Area, Natural Corrales ACEC, Oregon Buttes ACEC, Steamboat Mountain Area, South Pass Historic Landscape, and the entire Tri-State Monument Area.

Leasing of Solid Minerals Other Than Coal and Oil Shale

- 11 Every alternative considered in the DEIS allows exploration and leasing consideration for sodium in the "known sodium leasing area." See DEIS at 47. In accordance with BLM regulations, leasing of this mineral, like all federal minerals, must comply with NEPA. See 43 CFR 3500.7. Hence, alternatives

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188-6 See response to comment 188-4.

188-7 See responses to comments 27-1, 27-7, and 38-1. Other additional restrictions such as increasing wildlife seasonal restrictions, adding areas of no surface occupancy, and adding areas of surface disturbance restrictions in Alternative C over what is proposed in Alternative B does provide a broad range for analysis.

188-8 See responses to comments 27-1, 27-14, and 38-1.

188-9 This plan was prepared using an interdisciplinary team of specialists representing the various uses on our public lands. This plan provides for the orderly development of resources under the concept of multiple use.

188-10 Thank you for your advice for special management area analysis. See response to comment 38-1 for discussion of range of alternatives.

188-11 See response to comment 188-7. Page 18 of the Draft EIS states that no leasing of trona in the planning area was considered and eliminated from further analysis. NEPA requirements will still be required when leasing sodium.

to this proposal must be developed.

- 12 Also, it appears from Map 18 that a portion of the known sodium potential area near Flaming Gorge Reservoir is under the jurisdiction of different federal agencies: National Park Service, Bureau of Reclamation and National Forest Service. Since your regulations at 43 CFR 3500.7 also require that leasing of sodium be done in accordance with the terms and conditions of an approved land use plan, please discuss the legal ramifications of your proposal in light of the overlapping jurisdiction.

Mineral Withdrawals and Revocations

- 13 The DEIS states on page 368 that 263,965 acres of coal/oil shale lands, 480 acres of phosphate/oil shale lands, and 160 acres of phosphate/coal lands are currently withdrawn from mineral entry. Are these figures stated correctly? The location of the existing withdrawals is shown in Map 11, on page 140; it appears from this map that the area under existing withdrawal is much larger than 263,965 acres.
- 14 The following statement on page 135: "Withdrawals which no longer serve the purpose for which they were withdrawn would be revoked (Map 11 and Map 12)" implies that Map 11 shows the areas where existing withdrawals would be revoked. Correct? If our understanding is correct, the map's heading, "Existing Withdrawals" should be changed to reflect the fact that the map actually shows proposed revocations, in addition to existing withdrawals.
- 15 All but the no-action alternative call for the revocation of about 3.9 million acres (+/- 500,000 acres overlap) of mineral withdrawals. NEPA and BLM planning regulations at 43 CFR 1610.4-5 require that a full range of reasonable alternatives to your proposal to revoke mineral withdrawals on 3.9 million acres be considered in this DEIS. Why didn't the DEIS contain alternatives to this proposal?

The DEIS contains absolutely no indication of why the revocations are being proposed, or why the lands were withdrawn in the first place. Please explain. For example, Table 2-1 (Comparison of Alternatives) states, with respect to the preferred alternative and alternatives A and C, that: "Existing withdrawals no longer needed would be revoked." Who determines need and when was this decision made? Since you intend to revoke the withdrawals on 3.5 million acres of land under every "action" alternative, we assume that the question of need has already been decided. Correct?

- 16 The DEIS is also vague concerning the decisions and/or recommendations you will be making with respect to these lands. The DEIS states on page 13 that a review is being conducted "to determine whether existing withdrawals and classifications are serving or needed for their intended purposes." The DEIS goes on to state that "these reviews and resulting determinations are not a part of the BLM planning process." See DEIS at 13. If this is true, the process of which this review is a part should be described in the document. Particular emphasis should be placed on describing the opportunities the public has for participating in this review. The public should be invited to comment on whether, among other things, withdrawals are serving their intended purposes.

- 17 The DEIS also states that "deciding how the involved lands are to be managed, if or after the withdrawal were to be terminated, may be a function of the planning process and may require a BLM planning decision in the RMP." See DEIS at 13, 14. What, exactly, does this statement mean? Why don't you know whether a decision regarding the future management of such "involved lands" is part of the planning process. It sure sounds like it ought to be. Moreover, why don't you know whether a "planning decision" will be required? Please explain. NEPA requires that proposals for federal action be properly and accurately described. Obviously, this requirement is not met by such ambiguous and equivocal statements.

It is not clear to us how the specific lands under consideration for termination of withdrawals would be managed under the RMP. This should be explained.

Locatable Mineral Mining

- 18 The DEIS fails to contain an adequate range of alternatives with respect to environmental requirements, including plans of operations, environmental assessments, and other requirements for environmental protection, for locatable mineral mining operations under the general mining laws.
- 19 Table 2-1 indicates that, for every alternative, a plan of operations would be required "for any surface disturbance activity in designated special management areas (ACECs, etc.) and areas closed to off-road vehicle use." See DEIS at 48. Note that under BLM regulations at 43 CFR 3809.1-4, a plan of operations is required not only for operations occurring in ACECs and areas closed to off-road use, but also for any operation whose surface disturbance exceeds 5 acres, in potential and designated wild and scenic river corridors, and in designated wilderness areas.

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188-12 Map 3 (Coal/Sodium Potential) was prepared to show the entire known sodium potential area without distinguishing between land ownership. This plan will not make decisions on lands administered by any other federal agency.

188-13 The acreage stated on page 368 of the Draft EIS is overlapping acreage. For example, 160 acres withdrawn for protection of the phosphate resource are also withdrawn for the protection of coal. Total withdrawal acreages are shown on Table 2-7.

188-14 This map provides general information as to the location of existing withdrawals. Not all these withdrawals are recommended for revocation as described in the text. Thus, the map was not changed.

188-15 The various orders setting up and identifying the oil shale withdrawal (1930, 1968, 1982) were meant to protect the nation's potentially valuable oil shale resources so that they would be available to the nation. Lands within the withdrawal cannot be patented under the Mining Law of 1872, sold, traded, or otherwise disposed of by the Federal government. It was the intent to reserve the lands for development. See response to comment 11-3.

188-16 The withdrawal review process is, simply, a process of periodically reviewing existing withdrawals and land classifications to determine if they are still needed. When withdrawals or classifications are found to no longer be needed for the purpose they were established, and are identified for termination, the minimum requirement for inviting public involvement is publishing the termination proposal in the *Federal Register*. Public input is then considered before deciding whether or not to actually terminate a withdrawal or classification. Again, this process is not a part of another process or of the BLM land use planning process. Therefore, the withdrawal review "process" is not appropriate for further discussion in the RMP Draft EIS or the resulting RMP.

However, as explained on page 14 of the RMP Draft EIS, the important BLM "planning" aspects of potential withdrawal and classification terminations are dependent upon (1) whether or not the involved lands are under BLM jurisdiction or under jurisdiction of another agency or governmental entity; and (2) whether or not the BLM will have jurisdiction of part or all of the involved lands, if the termination is effected. Obviously, BLM has no business making planning and management decisions for lands on which we have no jurisdiction. As further stated on page 14 of the RMP Draft EIS, the existing planning and management decisions covering any BLM-administered public lands where withdrawals or classifications would be proposed for termination are also reviewed to determine if and how the management of the involved lands should change. ... "This latter review is done as an integral part of the RMP EIS process, to establish any needed changes in the management of the involved lands, 'before' [emphasis added] the existing withdrawals or classifications are terminated, and includes consideration of whether or not new withdrawals or classifications, for other purposes, should be placed on any of the lands in question"....

- 20** To comply with NEPA and your planning regulations, and to respond to identified planning issues, you must consider a range of alternatives prescribing additional environmental protection requirements for "hard rock" mining operations in other areas. We recommend, at a minimum, that operating plans and environmental assessments be required for existing and proposed operations in the following areas: proposed ACECs and special management areas, Red Desert Watershed Area, proposed South Pass Historic Landscape (Alt. C), sensitive areas, such as wetlands, floodplains, steep (25%) slopes, crucial winter range and birthing areas for wildlife, raptor nest sites and buffer zones, sage and sharptail grouse nesting and strutting areas and buffer zones, VQM Class II areas, designated and proposed no surface occupancy areas under Alternative C, the Wind River Front, recreational sites, ROW avoidance and exclusion areas, and in WSAs released for multiple use management.

Visual Resource Classifications

- 21** The DEIS utterly fails to protect visual resources within the planning area. Under the BLM's "preferred alternative," 2.7 million acres (76%) of BLM-administered federal lands would be managed under visual resource management (VRM) Class IV objectives. "The objective of this class is to provide for management activities which require major modification of the existing character of the landscape." See DEIS at 628. "Modifications to the landscape would be dominant." See DEIS at 514. "Visual resources would not be protected on this area." *Id.* We find this and all alternatives displayed in the DEIS related to "protection" of visual quality completely unacceptable. Much more must be done to protect important and visually sensitive resources in the planning area!

Of particular concern to us is your proposed treatment of the Red Desert Watershed Area (RDWA). Under the preferred alternative, the 341,060-acre RDWA would be managed "for multiple use and not as a special management area." See DEIS at 192. In light of this statement and the fact that the RDWA appears to be managed under a VQM Class IV prescription (DEIS Map 22), we find the following statement unbelievable: "The area would be managed to ensure developments and activities conform with the concepts of open space. The visual resource values of the areas would be retained. . . ." See DEIS at 192. Given the large amount of land covered by Class IV ratings, what is the basis for this statement? We believe that most or all of the Red Desert should receive protection of visual resources commensurate with a Class II rating.

- 22** The DEIS fails to contain an adequate range of alternatives

with respect to visual resource management prescriptions. The proposed VRM classes (by alternative) are shown in Table 2-16 and displayed in Maps 22, 36, 45, and 54. Clearly a full spectrum of alternatives concerning this important resource have not been developed. First, no areas receive a Class I designation. We believe WSAs should be designated Class I and analyzed accordingly.

- 23** Second, under Alternative C, the alternative ostensibly most "protective" of resource values, only a small fraction (500,000 acres) of the BLM-administered federal lands within the 5.6 million-acre planning area would receive Class II VRM designation. Again, this is completely inadequate. Alternatives offering greater protection for visual resources must be developed. We recommend, at a minimum, that the following areas be designated VQM Class II areas: all existing and proposed ACECs; select wild horse viewing areas; historic trail corridors; Red Desert Watershed Area; Steamboat Mountain Area; Tri-State Monument Area; the South Pass Historic Landscape (87,580 acres); developed recreation sites and areas; and WSAs not designated by Congress.

Livestock Grazing

- 24** Again, NEPA (and your planning regulations) requires an analysis of a "full spectrum" of reasonable alternatives. See 40 CFR 1502.14; 43 CFR 1610.4-5. Despite this express and unambiguous requirement, every alternative considered in the DEIS maintains current levels of grazing, approximately 318,647 AUMs. See DEIS at Table 2-1, page 32. We do not understand the rationale for this, especially in light of your own admission that forage is currently over used in some areas and the condition of riparian areas continues to decline. See DEIS at 104. You must develop a full range of alternatives which respond to the declining and poor range conditions found within the planning area.

Geophysical Activity

- 25** Table 2-14 displays the areas (in acres) proposed for closure to geophysical vehicles and explosive charges by "alternative." Unfortunately, no real choices for managing geophysical activity are available in this DEIS: the alternatives are essentially the same. The difference between the alternatives is barely perceptible; indeed, the range between the most restrictive alternative and least restrictive alternative is a little more than 1000 acres: 176,617 acres vs. 175,422, respectively. Further, every alternative considers geophysical activity a "necessary task," meaning that virtually the entire

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Finally, as yet further stated on page 14 of the RMP Draft EIS, "...For purposes of providing an adequate comparison of impact analyses in this RMP EIS, under Alternative A (no action), all existing withdrawals and classifications, and their segregative effects, are assumed to continue in effect. The other alternatives will address various changes in management for the areas where termination of withdrawals or classifications under BLM jurisdiction are being considered."

In response to your comment "...The DEIS is also vague concerning the decisions and/or recommendations you will be making with respect to these lands." ... We refer you to the presentation of the Preferred Alternative in Chapter 2 of the RMP Draft EIS, including the Table 2-2 summary and the narrative portions. The comparative management differences (if any) among the various alternatives, between retention of existing withdrawals and classifications and termination of any, are also presented in these same parts of the RMP Draft EIS, under the subheading "Withdrawals and Classifications".

- 188-17** Since other agencies manage parts of or some of these areas, current management may or may not be in conformance with the proposed Land Use Plan decisions. If they are, additional planning may not be necessary. If current management is not in conformance with the Land Use Plan prescriptions, additional plan maintenance or amendment may be necessary.

- 188-18** The environmental requirements of development on a mining claim are in 43 CFR 3809 and 43 CFR 3802.

- 188-19** Thank you for your comment.

- 188-20** Plans of Operations, reclamation bonds, and Environmental Assessments are already required in ACECs and other areas described in 43 CFR 3809 and 43 CFR 3802.

- 188-21** Since the Draft EIS, the VRM classes in the Red Desert were modified to protect scenic values in the area. We have re-evaluated our Visual Resource Management (VRM) classifications over the planning area. The scenic quality of an area was integrated with existing and potential developments to more accurately reflect land management scenarios for the next 10 to 20 years. For example, the Red Desert VRM classification of a IV was upgraded to a III to protect the scenic values of this area while still allowing for mineral and utility development to take place.

- 188-22** If Congress designates any WSAs as Wilderness, they will automatically be classified as a VRM I because the "landscape would be unaltered by humans." WSAs were not given a VRM classification of I, because some uses are "grandfathered" and development could take place as long as the suitability of the area was maintained. Existing uses that were taking place on these lands before the Federal Land Policy and Management Act (FLPMA) was signed on October 21, 1976 may have "grandfathered" rights. Wilderness designation would revoke all "grandfathered" rights.

- 188-23** See response to comment 188-21.

- 188-24** See response to comment 173-3.

- 188-25** See responses to comments 27-9 and 38-5. We feel that we have provided a reasonable range of alternatives under the laws and policy guidance currently in effect. Table 2-1 has been corrected to reflect the acres shown in Table 2-19 (Areas Proposed for Closure to Geophysical Vehicles and Explosive Charges).

planning area, including areas without roads, or even "trails," is subject to potentially destructive geophysical activity.

A range of alternatives responding to the potential environmental effects of this activity must be developed and displayed in the document.

By the way, the figures listed in Table 2-1, describing areas closed to geophysical exploration do not appear consistent with those displayed in Table 2-14. Is there a problem?

Fire Management

26 All alternatives for fire management displayed in Table 2-1 and discussed in the narrative appear identical. See DEIS at 25, 125, 204, 249, and 292. Incredibly, the written descriptions of the alternatives, management objectives, and management actions are nearly identical for each alternative. Given your express recognition that fire affects "ecological systems" (DEIS at 362), we fail to understand why no alternatives to the proposed action have been developed.

27 The focus of the preferred alternative, and all others, as well, appears to be on the production of livestock forage. Conversion of shrub communities to grasslands can negatively impact, among other things, big game and nongame bird and mammal species and their habitat, fisheries, biodiversity, and soil stability. The displayed alternatives are completely unacceptable. You must develop alternatives that put the emphasis where it properly belongs: on creating and maintaining conditions favorable to all wildlife, on improving riparian areas, and on improving the ecological and biological condition of the area in general.

28 Every alternative displayed in the DEIS (page 55) calls for prescribed fires "in areas having greater than 35 percent sagebrush composition, 20 percent desirable grass composition, and greater than 10 inches of precipitation." Ecologically-based alternatives to this specific proposal must be developed.

We are particularly concerned about vegetative "treatment" in crucial winter range. Every alternative discussed in the DEIS provides for the destruction of sagebrush in crucial winter ranges. See DEIS at 56. This, too, is unacceptable. A range of alternatives, including a no action (no treatment) alternative, and others that emphasize the needs of wildlife, must be developed and seriously considered.

29 We oppose the use of all chemical herbicides (in all but

the most compelling circumstances) to control sagebrush. Chemicals persist in the biosphere, are often carcinogenic, pollute surface and groundwater, and kill many desirable (from an ecological standpoint) plants, fish, and wildlife. A "no chemical" alternative should be considered.

Forest Management

30 The amount of timber that could be removed from forests in the planning area under Alternative C (500,000 board feet per year) is wholly inconsistent with the stated management objective for that alternative; namely watershed, wildlife, and scenic resource values and objectives. See DEIS Table 2-1 at 26. In fact, under Alternative C, harvest activity would be restricted on fewer acres than under the preferred alternative! Alternative C restricts harvest activity on about 4120 acres as compared to the Preferred Alternative's restrictions on 4370 acres. This makes no sense at all, given the very different management objectives prescribed for these alternatives.

There's really very little difference between the alternatives for forest management; all seem to be driven by a perceived need to actively "manage" the resource. Moreover, all seemed based on and guided by silvicultural needs and standards, rather than on accepted biological principles. Clearcutting is allowed under all alternatives; conifer stands would receive full fire suppression; old growth does not appear to receive any special consideration; commercial harvesting, firewood cutting, post and pole operations, would be authorized under all alternatives; and protection of wetlands and riparian areas would ostensibly be assured by narrow buffer zones (which end up being destroyed by private firewood cutters or by blowdown, or other natural forces) rather than by other, more effective controls.

Red Desert Watershed Area

31 The range of alternatives presented in the DEIS for the management of this amazing and unique area fails to respond to the legitimate concerns of the public and their requests for greater protection and special management. Every alternative authorizes multiple-use management of the area, under very similar management objectives. Every Alternative (except no action), for example, prescribes identical treatment for coal leasing and development, mineral material sales, rights of ways, and visual resource management. BLM must develop a range of alternatives that responds to the concerns of the public with respect to this area.

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188-26 Each alternative addresses the current policy for wildfire, which is the same. When a preferred alternative is selected, fire management areas will be implemented through activity planning defining parameters using fire as a resource tool.

188-27 With the exception of Alternative B (production alternative), the alternatives are designed to maintain, protect, or improve habitat for all uses. The "I" category allotments do and will have AMPs with objectives to improve or protect wildlife habitat. All AMPs are being revised to include riparian objectives.

188-28 The numbers displayed in the Draft EIS were for the purpose of evaluating "potential" vegetative treatment areas and coming up with total acres to be considered for vegetative treatment. Plant community evaluations over the past years indicate that most shrub communities are not particularly healthy because most of the individual shrubs are overmature and/or decadent. To provide healthy plant communities and greater biodiversity, the preferred vegetative treatment is by fire. Fire results in a mosaic pattern of early seral vegetation species, scarifies seeds, and returns nutrients to the soil.

Summer ranges are not usually limiting wildlife populations and are generally in better condition than winter ranges. The objective of winter range treatments is to improve the quality of browse and convert decadent shrubs to seedling and young plants. BLM identified not treating more than 10% of any crucial winter range within a 10-year period. How much is treated depends on what the objectives are and what species you are managing for.

These areas described are the best areas for prescribed burns. They have the vegetation present for burning with desirable soil and precipitation to ensure that revegetation will occur. Before any prescribed burn takes place, a site specific EA must be prepared to address all impacts. If impacts cannot be mitigated or the project may interfere with wintering wildlife, the project in all probability will not take place.

188-29 Thank you for your comment. The preferred method of modifying sagebrush is through use of fire.

188-30 The 500,000 board feet annual cut is about half of what the harvest calculations project can be removed and have a sustained yield. The actual harvest in the past has been much less than the 500,000 board feet.

The document has been updated to reflect the correction in restricted harvest acreages for the Preferred Alternative and Alternative C. There is a problem with the restricted harvest acres, these figures probably should be reversed, 4,770 acres for Alternative C and 4,370 acres for the Preferred Alternative.

Silvicultural needs and standards and accepted biological principles - both strive for forest health, and both are evolving as we gain more knowledge. Our management prescriptions recommend management of timber stands for other uses and resource values, not solely for timber or silvicultural needs. See response to comment 171-6.

For old growth, see response to comment 172-5. If some species (e.g., lodgepole pine) are left for old growth, the stand will probably be taken over by another species (e.g., subalpine fir).

No matter how we manage, there is mortality. Some dead trees should be left to support the ecosystem. Most of the harvesting is done before the trees die but at an age where these stands are susceptible to insects and disease, then a new stand is generated.

Buffer strips are an effective means of protecting wetlands.

Wilderness Study Areas

- 32** The DEIS states on page 423 that the "undesigned areas will lose their identity as WSAs and will be managed along with the adjoining area as prescribed in the approved Green River RMP."

First, the management prescription proposed for lands adjoining WSAs is unclear. Where is this issue discussed in the DEIS?

Second, we believe that any decision concerning the future management of undesigned WSAs made without an analysis of the alternatives to such management would constitute a violation of NEPA. Accordingly, we are proposing that any WSA not designated by Congress be proposed for management as an Area of Critical Environmental Concern (ACEC). Our rationale for making this recommendation is simply that regardless of Congress' decision, the areas not recommended as suitable for designation (DEIS at 421) nevertheless possess many outstanding natural features (wildlife, scenic, cultural, watershed, historic, spiritual, etc.) warranting special management attention.

DESCRIPTION OF THE AFFECTED ENVIRONMENT

- 33** CEQ regulations implementing NEPA require in every EIS a succinct description of the environment of the area to be affected or created by the alternatives under consideration. See 40 CFR 1502.15. The description is "necessary to understand the effects of the alternatives" on the environment. The description of the affected environment in the DEIS is generally adequate and in compliance with NEPA; in some instances (candidate plant communities) it is exceptional. Unfortunately, however, the description of the following resource elements in the DEIS falls short of NEPA's mandate.

Forestry

- 34** The use of the word "Forestry" (DEIS page 362) to describe an element of the affected environment reveals the strong bias in favor of resource development that pervades the document. Forestry is not an environmental component, but rather the science of managing growing timber. The heading should properly be "Forests" and the description required by NEPA must focus on the physical and biological aspects of this environmental component, rather than on the commercial value of the timber stands present in the planning area, as was done in this instance. The description of "forestry" in the DEIS is clearly not the result of a multidisciplinary effort, as required

by NEPA.

- 35** Forests, especially old growth forests, comprise some of the most complex ecosystems on earth. In addition to providing a source of timber and firewood, forests provide important habitat for hundreds of plant and animal species, including commercially valuable species such as elk, deer, and moose; sensitive, threatened and endangered species such as northern goshawk, three-toed woodpecker, grizzly bear, peregrine falcon; and other lesser known species, such as the fisher and pigmy shrew. Forests act as storehouses of genetic material and species diversity, provide important watershed functions, and offer a variety of consumptive and nonconsumptive recreational opportunities.

This section should be rewritten to more accurately describe the forest environment within the planning area. An interdisciplinary approach should be utilized to assure a correct and scientifically based assessment. See 40 CFR 1502.6. An accurate and complete description of forests within the planning area is necessary for an understanding of both the present situation and the future conditions likely to be created by management actions authorized under the plan, and is essential for comparing the environmental consequences of alternatives.

Livestock Grazing

- 36** Livestock grazing is not an element of the environment, but rather a consumptive use of a public resource, a use which has caused --and continues to cause in some instances-- serious environmental degradation within the planning area. See DEIS at 370. The environmental component at issue is range or forage, and livestock grazing is but one of several impacts to this resource.

We do not oppose livestock grazing on public lands where it occurs in an environmentally responsible manner. But we do object to the skewed and improper emphasis BLM appears to place on livestock use in the DEIS, at times at the expense, it seems, of legitimate natural resources; namely fish and wildlife, wetlands, and riparian. The following statement in the DEIS illustrates our point: "The rangeland program in the planning area emphasizes management of forage for livestock and wild horses, and incorporates needs for wildlife habitat and protection of riparian and watershed values." See DEIS at 370. In our opinion, FLPMA requires that management emphasis be placed on public resources, and that uses of the public's resources be allowed only where consistent with protection of the resource. Your statement, however, suggests you subscribe to the opposite

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188-31 The interdisciplinary team reviewed the resource values in this area, including consideration of the relevance and importance criteria for ACEC consideration. The relevance and importance criteria were re-analyzed by the team after public comment. The area did not meet the relevance and importance criteria, but it was determined that management would preserve the wide open and scenic vistas of the area. As resource management prescriptions changed in the alternatives, so did the management in the Red Desert. For example, under Alternative B, 46,375 acres were available for coal leasing consideration. Under Alternative C, 2,860 acres were available for further leasing consideration.

188-32 See response to comment 188-3. WSAs that are not designated Wilderness by Congress would be managed under the BLM Multiple-Use and Sustain Yield mandate. Any new developmental proposals in these areas would require NEPA documentation before BLM would approve or disapprove the action. Areas of Critical Environmental Concern are areas that require special management attention to protect the important and relevant values found there. The planning team, composed of interdisciplinary specialists, did not find some of the "non-suitable" WSAs to have these values.

188-33 See response to comment 188-2. More detailed information is on file in the Management Situation Analysis in the Green River Resource Area Office.

188-34 See changes in the Final EIS. This part of the Draft EIS (page 362) describes the commercial aspect of the forest resource and ways to promote healthy stands of trees (see the vegetation section). This section and all through the RMP, stipulations are developed to protect all resources and biological components from any action such as logging, grazing, etc. Everything in this document was an interdisciplinary effort.

188-35 The interdisciplinary approach was used. There is a description of the forest resource. The intent of this document is not to go into the detail you suggest, but to describe the ways in which the resource will be managed.

188-36 The statement on page 370, "the rangeland program in the planning area emphasizes management of forage for livestock and wild horses," is in the Affected Environment section of the Draft EIS, referring to the current management of the lands in the planning area. Future management is proposed in the Preferred Alternative. Page 34, Table 2-1 (Draft EIS), states "Authorized grazing preference may be reduced in areas with excessive soil erosion, poor condition, or as necessary to provide forage for wildlife, wild horses, or recreational use." The Preferred Alternative also states on page 145 that "Management would be implemented in 'I' category allotments to maintain or improve wild horse, wildlife, watershed, and soils values."

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philosophy: that wildlife receives the "leftovers" after cows and sheep have had their fill.

Visual Resources

37 The overly technical description of visual resources within the planning area fails to capture and convey the true nature and importance of this resource, and indeed, the true beauty of much of the area. As you know, scenic values represent one of the most significant --and admittedly one of the most difficult to quantify-- resources in the planning area.

While there may be some truth to the saying that beauty is in the eye of the beholder, almost everyone would agree that certain areas within the GRRRA possess extraordinary aesthetic qualities justifying special recognition and protection. We would add to your list of areas with "important scenic and visual values" (DEIS at 417) potential wild and scenic river corridors, the Red Desert Watershed Area, (Great Divide Basin), South Pass Historic Landscape (87,540 acres), areas within one mile or visual horizon of historic sites and trails, wild horse management areas, Cedar Canyon ACEC, the entire Monument Valley Area, Natural Corrals ACEC, Oregon Buttes ACEC, Pine Springs ACEC and Expansion Area, the Steamboat Mountain Area, and Tri-State Area. All of these areas deserve to be managed in a manner commensurate with their respective visual attributes: under Class II visual quality objectives, not Class III or IV, as you propose.

ENVIRONMENTAL CONSEQUENCES

According to Council on Environmental Quality (CEQ) NEPA regulations, the environmental consequences section of an EIS "forms the scientific and analytic basis for the comparisons [of alternatives] under 1502.14." See 40 CFR 1502.16. This section should include, among other things, discussions of direct and indirect effects (including cumulative effects) and their significance for each alternative, and energy requirements and conservation potential of the alternatives. See 40 CFR 1508.8. Stated another way, "[t]he 'environmental consequences' section of the EIS discusses the specific environmental impacts or effects of each of the alternatives including the proposed action." See, *Forty Questions on CEQ NEPA Regulations*, 46 Fed. Reg. 18026 (March 23, 1981), as amended, 51 Fed. Reg. 15618 (April 26, 1986). This section "should be devoted largely to a scientific analysis of the direct and indirect environmental effects of the proposed action and of each of the alternatives." Id.

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Direct effects "are caused by the action and occur at the same time and place." 40 CFR 1508.8(a). Indirect effects "are caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable." Id. at 1508.8(b). Indirect effects "may include growth inducing effects and other effects related to induced changes in the pattern of land use, population density or growth rate, and related effects on air and water and other natural systems, including ecosystems" (emphasis added).

38 Volume 2 of the DEIS, "Environmental Consequences," fails to meet the basic requirements of NEPA. Additionally, the DEIS violates BLM planning regulations at 43 CFR 1610.4-6 by failing to "estimate and display the physical, biological, economic, and social effects of implementing each alternative considered in detail." (emphasis added).

The DEIS lacks any analysis of the direct, indirect, and cumulative impacts of the proposed action and alternatives. Indeed, this section reads more like a report prepared for *Business Weekly* than a NEPA document, whose chief purpose, again, is to analyze environmental impacts of federal actions. For example, in analyzing impacts resulting from closing certain areas to oil and gas development, and placing restrictive stipulations on leases in other areas, the Draft EIS goes on at great length describing how such closures and stipulations preclude opportunities for exploration and development and increase the costs of operations. See Draft EIS at 500. The following statement in the DEIS illustrates the misplaced and improper focus of the analysis:

"Short-term and long-term affects would occur to mineral production and management by closing 465,570 acres to leasing." No surface occupancy requirements and restrictions on surface disturbance would increase the costs of doing business and possibly preclude some activities."

See DEIS at 502 (emphasis added).

The document utterly fails to analyze the environmental impacts likely to result from the planning direction displayed under each alternative, making a meaningful comparison between them impossible. It also completely ignores the positive environmental impacts of imposing restrictive stipulations, such as protection of crucial wildlife habitat and important recreation areas.

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188-37 See response to comment 188-22. We agree. Most of these areas you mentioned are proposed VRM class II in the Preferred Alternative.

188-38 See response to comment 188-2. It has been shown that it is impossible to discuss every impact to its final conclusion. What is necessary, however, is a **reasonable** discussion to the extent that the resource area office can make an informed decision. The 43 CFR 1610.4-6 states what was emphasized in the letter; however, further in the paragraph, it continues "...shall be guided by the planning criteria and procedures implementing NEPA. The estimate may be stated in probable ranges where effects cannot be precisely determined."

Every impact cannot be predicted for every alternative. The text has been modified somewhat to clarify effects. However, this is a programmatic document and site specific analysis of individual actions will provide more detailed discussion of impacts from those individual actions.

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39 Even the most "restrictive" alternative, Alternative C, authorizes oil and gas leasing on over 3,000,000 million acres of public lands in the planning area. The BLM (DEIS at 470) predicts that thousands of wells, thousands of miles of pipelines and roads, and ancillary facilities, such as gas plants, tanks, production ponds, and utility lines will be developed in the next 20 years, yet the environmental impacts of these activities is largely ignored in the DEIS.

Unfortunately, the same is true with respect to the analysis of impacts relating to coal, sodium, locatable minerals, mineral materials, forestry, lands and realty actions, geophysical activity, and off-road vehicle use. See DEIS at 494-501. The most absurd statement in this regard (there are many) appears on page 597, where the document concludes that "[m]ajor impacts to the coal program come from wildlife" You surely must understand that NEPA requires an analysis of the impacts of the coal program on wildlife, and that economic impacts, while important, are secondary to the fundamental objectives of NEPA.

40 With respect to forestry, the DEIS states on page 494 that implementation of the preferred alternative would result in a 56% reduction in volume output. Perhaps this is so, but the DEIS fails to discuss the environmental impacts of this alternative on forest resources.

41 On page 597, the analysis of the "environmental consequences" of sodium/trona production under Alternative C reads, in whole, as follows: "Impacts to sodium are from air, water, and visual resources. These resource objectives often increase the cost of sodium development and may inhibit further development in the northern known sodium leasing area." (emphasis added). Again, the central concern of NEPA lies not with the constraints imposed upon development (i.e., "to sodium"), but rather the impacts from development to the environment.

42 The analysis of impacts from locatable minerals mining is similarly flawed. The analysis is limited solely to a discussion of how the various alternatives presented in the Draft Plan could potentially affect business opportunities within the planning area. For example, the preferred alternative could restrict mineral location in some areas, increase the costs of operations, and complicate the mineral development process by requiring plans of operations and bonds. See DEIS at 501, 502. At the same time, however, this alternative could benefit the mineral industry by making about 3 million acres of existing withdrawals for coal and oil shale available for mineral location. Again, the analysis is devoid of any consideration of the environmental consequences of this alternative.

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43 Likewise, with respect to mineral materials, the DEIS states on page 502 that "[o]pportunities for sales would be lost on about 204,397 acres." It states that no surface occupancy stipulations would adversely impact the use of mineral materials and would "increase costs of doing business." Perhaps. But NEPA is more concerned with environmental impacts than economic opportunities. And the analysis of environmental impacts in this document is woefully inadequate; indeed, such an analysis is completely absent! NEPA requires an analysis of the environmental consequences of all alternatives to help the decisionmaker make better-informed decisions: "The NEPA process is intended to help public officials make decisions that are based on understanding of environmental consequences, and take actions that protect, restore, and enhance the environment." See 40 CFR 1500.1(c).

The fundamental objective of NEPA cannot be met in the absence of a careful and thorough analysis of environmental effects likely to result from each alternative. We therefore recommend the preparation of a supplemental EIS which corrects the deficiencies we have noted herein and an additional opportunity in which to comment on the revised document. In other words, the environmental consequences section is so flawed that it must be rewritten and resubmitted to the public and other agencies for additional review.

Cumulative Impacts

44 Cumulative impacts (40 CFR 1508.7), are not analyzed in the DEIS, notwithstanding its dramatic toll on air, ground and surface water resources, wildlife, watershed, visual resources, and recreation opportunities in the planning area. For example, impacts from current and reasonably foreseeable coal mine operations are measured merely in the context of surface disturbance, a direct impact, while ignoring all other environmental direct and indirect effects likely to result from such activities. The same is true for oil and gas, sodium, hard rock mineral, and coal bed methane development: the document contains no substantive discussion of environmental impacts likely to result from these and other activities within the planning area.

Air Quality

45 Air resources within and outside the GRRRA are of increasing concern to the Wyoming Outdoor Council. The analysis, conclusions, coordination measures and description of air quality impact resulting from the proposed RMP are inadequate, inaccurate, and in some cases misleading.

Comment Responses

188-39 Much of the Green River Resource Area is leased and under development. This will not change for the analysis period in the plan. We did analyze, although not in detail, a no leasing alternative. In the Preferred Alternative, we only projected that 1,296 wells would be drilled from 1990 through 2010. New surface disturbance associated with activity will cover 13,828 acres. Ongoing stabilization and reclamation activity will continue during this time period. In 2010 we have projected that there will only be an additional 23 acres of net long-term disturbance due to oil and gas drilling activity.

Environmental impacts of this activity have been discussed on each resource in the document. Many Chapter 2 actions are proposed to provide protection to resource values. Specific restrictions proposed in the Preferred Alternative to limit oil and gas impacts are:

1. No leasing on 337,510 acres.
2. No surface occupancy on 299,740 acres.
3. Seasonal restrictions on 1,668,440 acres.
4. Surface disturbance restrictions on 1,228,080 acres.

These proposed restrictions do reduce potential impacts caused by this activity. Chapter 4 discusses impacts of this activity on each resource, including oil and gas.

Environmental impacts of other activities have also been discussed throughout this planning process. Again, refer to the numerous Chapter 2 actions that are proposed to provide protection to resource values.

We do not agree that our statement is absurd. Neither do we agree with your comment on the National Environmental Policy Act of 1969. Part (B) of Section 101 of NEPA states that the Federal Government shall "identify and develop methods and procedures, . . . , which will insure that presently unquantified environmental amenities and values may be given appropriate consideration in decision-making along with economic and technical considerations." Both beneficial and adverse effects are described. Many management actions, proposed to protect other resource values, have negative impacts on mineral resources. Land closures deny the location of mineral activities in certain areas. Other proposed actions that deny surface occupancy or restrict surface disturbing activity also deny the placement of mineral activities in certain areas or increase the cost of locating and producing mineral commodities. By describing areas closed to mineral leasing and quantities of minerals produced, we are in a better position to determine how proposed actions impact the mineral resource. This resulting information then can be used to determine the types of beneficial and adverse economic effects that would occur from adopting the proposed management actions. In turn, the impacts to wildlife are discussed in the wildlife section. Both beneficial and adverse effects are discussed to determine how proposed actions affect the wildlife resource.

188-40 For every timber sale that is established, there is an environmental analysis prepared that lists the environmental impacts specific to that sale. Also see the vegetation section in Chapter 4.

188-41 See response to comment 188-39.

188-42 This is true only of the minerals sections. The other resource components discuss this in their individual sections. Economic analysis and effects to the human environment are also an important consideration under NEPA. See responses

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to comments 188-39 and 188-41. It is national and world economic conditions that determine the extent of any type of mining (the more demand, the more mining) and not the resources BLM administers. In other words, BLM's concern in protecting some resource is not going to determine whether a company pursues production; it would be a function of economic conditions. Any large mining operation is subject to a multitude of environmental regulations from both Federal and state regulators. Small operations may not be subject to such regulations but this is a regulatory flaw, not BLM's. BLM's concern would be with whether or not to allow mining in a particular area.

BLM is concerned with location of potential minerals and those areas that this type of activity should or should not be allowed. Because BLM closes a particular area to any form of mining to protect other resource values, doesn't mean that type of mining won't be allowed anywhere else. This simply means that the concept of multiple use does not require multiple use on every acre it means making choices on the types of uses that shall be allowed on any particular area. Policy is to allow for locatable mineral activity on public land, and BLM determines what minerals are involved, where they are located, the acreage involved, other uses and values within that same area, the environmental impacts of different development scenarios, and finally to close those areas where mining activity would be incompatible with other values. Information is incomplete on the types of locatable minerals in the planning area, and their location. Where possible, potential areas of development were identified and the affects of those activities analyzed in the EIS.

Each resource section discusses impacts to that resource from other resources in the Draft EIS; thus, the impacts discussed under the locatable minerals section discusses the impacts to locatable minerals from other resources.

Within the Oil Shale and Coal withdrawal area, there will be about 126,000 acres that will remain closed to mineral location when the Oil Shale and Coal withdrawals are revoked. This does not include approximately 95,000 acres within the Flaming Gorge National Recreation Area administered by the Forest Service that will remain closed to mineral location. The approximately 95,000 acres was not identified in the Draft EIS as remaining closed to locatable minerals as these lands are administered by the Forest Service.

188-43 See responses to comments 188-7, 188-39, and 188-41.

188-44 The cumulative impact analysis does take into account the relationship of effects from all actions, positive and negative. The effects are discussed and are the bases for many of the management prescriptions in the alternatives.

The 40 CFR 1502.16 requires a discussion of direct and indirect impacts and their significance; possible conflicts between proposed action and regulatory objectives; environmental effects of all alternatives; requirements or depletions natural resources a long with the usual items of discussion such as short-term v. long-term or irreversible or irretrievable commitment of resources.

188-45 The text has been changed in the Environmental Consequences chapter for the Proposed Plan under Air Quality: Table 4-3 (Major Air Pollution Emission Sources) lists the major air pollution emission sources in the planning area.

There is no adequately specific treatment of present, cumulative air quality impact from BLM-permitted activity, such as oil and gas exploration, production and transportation. Considerable air quality data has been collected by the State of Wyoming, the BLM, the U.S. Forest Service and industry concerning the present and potential effect of development on the affected airshed, yet no detailed breakdown of present and projected impacts are treated except for localized H2S.

Testimony at a Wyoming Air Quality Board meeting in Rock Springs in 1991 indicated that fog (properly smog, because of volatile organic compound emissions) is already a problem in the Rock Springs-Green River Area, yet this RMP contains no analysis of current levels of emissions for the southwest Wyoming airshed, even though these are available from the State of Wyoming Department of Environmental Quality, Air Quality Division.

Given the wind patterns shown on your Map 81, p. 532, potential long-range emissions from northern Utah are also a concern. Figures for the five Wasatch Front counties were 81,360 tons/year SO2 and 65,079 tons/year NOx in the 1980's. Estimated emissions increases for Wyoming and Utah from 1980-2030 are +42% for SO2 and +142% for NOx (NAPAP Interim Assessment, v. II, p. 3.28-9). Given the current concentration of industrial activity in the Rock Springs District and the current concentration of industrial activity on the Rock Springs District and these estimated increases, the cumulative effect of mining, large-scale drilling, gas transportation and processing, and coal-fired powerplant operation may be significant. Proposed increases in these activities must be analyzed for cumulative air quality impact before further permits are allowed. Data are available from the State of Wyoming Dept. of Environmental Quality, Air Quality Division. Their 1992 allowable emissions totals for the two pollutants of most concern for acid deposition are 92,137 tons/year of SO2 and 115,484 tons/year of NOx (Collins, Wyoming DEQ, 1992.)

46 The impact on nearby Class I airshed is not properly addressed. The U.S. Forest Service has an affirmative responsibility to prevent significant deterioration of air quality in Class I Areas, two of which--the Bridger Wilderness on the Bridger-Teton NF and the Fitzpatrick Wilderness on the Shoshone NF--are located downwind of the Green River Resource Area, Rock Springs District. Given the wind patterns shown on your Map 81, p. 532 and the concentration of petroleum development shown on Map 89, p. 728, there is clear concern about additional SO2 and NOx emissions located on the Rock Springs District. In 1992, the U.S. Forest Service reported on the Bridger Wilderness as follows:

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188-46 This EIS relates to the plans and policies of the BLM in relation to future developments in the Green River Resource Area. Description of specific activities is deferred to activity plans and activity or site specific EAs and EISs. These are called site-specific, not because only that location is considered, but because they are instigated by the activities on a specific site, not regional activities or general BLM planning actions such as in this RMP. The cumulative impact requirements are the same for a site-specific as for any EA or EIS. If an action (such as opening an area for coal leasing) will result in unavoidable adverse environmental impacts, mitigation measures must be included in the impact statement.

Even though some BLM activities result in unavoidable adverse impacts to air quality, separate mitigation measures are not included in the EA or EIS since air pollution control regulations already exist. Specifically, in Wyoming, any air pollution emitting source must receive a permit from the Wyoming Department of Environmental Quality assuring it will not cause an exceedence of the ambient air quality standards. If the emissions are above 250 tons per year (or 100 tons per year for specified sources), the source must undergo prevention of significant deterioration review. Such a source must also meet the requirements of the New Source Performance standards. The BLM works in consultation with the Wyoming DEQ when such a source is on BLM-administered lands, but the BLM can only provide recommendations. The Wyoming DEQ issues the permit making the final determination of allowable emissions.

The same is true for most BLM-authorized activities. The BLM has no authority to set emission limits directly on air pollutants, except H₂S from oil and gas wells. Particularly, if the emissions will impact Class I areas, other federal land managers may make further recommendations, but again subject to EPA review, Wyoming DEQ issues any air quality permits.

For Class I areas, the federal land manager must also make a determination whether air quality related values such as visibility are being adversely impacted. The state regulatory authority should take this into consideration in granting the permit. We do coordinate with the National Forests on activities that may affect the Class I airsheds as well as ongoing monitoring actions.

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Cont'd

"When the results of sulfate deposition are plotted against the ANC (acid neutralizing capacity) of lakes such as Deep Lake, the evaluation procedure shows the lake to be in the middle range of uncertainty. This means the lake is not presently acidified but if the amount of sulfate deposition were to increase in the future beyond an unknown amount, the lake could acidify. Since there are several other lakes in the Wind River Mountains more sensitive (in other words with less ANC) than Deep Lake, it is apparent that under the current regime of deposition these lakes are even closer to an acidification threshold."

See, Galbraith, Alan, C. Harrelson and C. Rawlins. Acid Deposition in the Wind River Mountains, AQRV Report #2, Bridger-Teton National Forest, 1992, at 37.

The largest contiguous area of Class I airshed in the United States is in western Wyoming, including not only the Bridger and Fitzpatrick Wildernesses, but Teton and Yellowstone National Parks and further adjacent wilderness areas. Given the prospect for industrial development in the Rock Springs District along with the amount of air quality data available and the level of federal agency, state and public concern for increased SO2 and NOx emissions in southwest Wyoming, the information and analysis of the impact of the proposed activities in this RMP is not only insufficient, but perhaps consciously misleading.

A cumulative air quality impact analysis is needed. The recent BLM Big Piney-LaBarge Coordinated Activity Plan estimates cumulative air quality impacts for that area, but no such specific tabular estimates are present in the Green River Area RMP. These are needed to properly judge the cumulative air quality impact of the proposed activities, particularly petroleum and coal development. Also absent are specific guidelines for monitoring and coordination with the state and federal agencies. These should be specified as to activities, reports required, and time-frames. The sections on air quality coordination and monitoring are presently not much more than general statements of good intentions.

Further detailed comments referenced by page number follow:

p. 19: A "case-by-case basis" is the poorest possible method of analyzing and planning air quality management, since cumulative airshed loads and long-range effects are not taken into account.

p. 245-6: Detailed support for reaching these management objectives is lacking, and the above comments on "case-by-case"

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administrative action applies.

- 47 p. 288: The BLM doesn't need to initiate more study on air quality as much as it needs to pay attention to the studies in progress and support them with funding to the extent that they meet present BLM needs for data. Long-term air quality data is available from the National Atmospheric Deposition Project for at least 5 sites in southwest Wyoming, with additional databases in development by Bureau of Land Management researchers in Fort Collins, CO, U.S. Forest Service, visibility monitoring program, and university and private researchers.

p. 337: above comment applies.

- 48 p. 344, Para. 2: Figure 7 is erroneously labeled. There is no monitoring site at Green River Lakes. The NADP monitoring site near Pinedale (WY 06) has been reporting since 1983. Other sites and dates include: Gypsum Creek (WY 98) 1985--; Indian Park (bulk deposition) 1984-1992; Hobbs Lake (bulk deposition) 1984; Black Joe (bulk deposition) 1984; Lester Pass (bulk deposition) 1984-1992; Sinks Canyon (WY 02) 1984--; South Pass City (WY 97) 1985--. Chemical data tables (for Ca, Mg, K, Na, NH₄, NO₃, CL, SO₄, PO₄, H⁺, and total cm ppt.) from these sites are included in Galbraith, Alan, C. Harrelson and C. Rawlins, Acid Deposition in the Wind River Mountains, AQRV Report #2, Bridger-Teton National Forest, 1992, at p. 37.) There is also an NADP site south of Evanston, Wyoming, which has reported data relevant to any treatment of air quality in the Rock Springs District.

p. 345: The graphed data is from NADP site WY 06, east of Pinedale, Wyoming, while the page label claims it is data for Green River, Wyoming, about 100 miles to the south.

- 49 p. 481: Heavy deterioration of visual resources is already occurring in the South Pass area, in terms of measurable SVR (Standard Visual Range) values, arguing that little "special consideration" is being given at present, and that specific monitoring is necessary to prevent further deterioration of visual quality.

- 50 p. 490: The "Emission Factor" is only an estimated value per unit, not an estimated impact value for the area of concern. This table should be worked out according to the proposed activities to give total estimate for the listed pollutants by year for each proposed alternative.

p. 491-2: The statement in para. 2 as to the interpretation of Map 79 is inadequate and possibly misleading. There is no

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explanation of "Climatological Pollution Potential" in terms of parameters measured, pollutants included, how "pollution potential" values are calculated, or any relevant factors supporting this map as useful.

p. 530, para. 2: It is the responsibility of the BLM and this EIS to compare the potential impact of the activities listed in Table 4-22, at the levels proposed in this document.

- 51 para. 3: The TAPAS Maps, #80 and 81 should be adequately described as to seasonal variation in wind patterns, since the winter and summer airflows are significantly different and could affect the impact and timing of emissions-producing activities.

p. 562: It is the responsibility of the BLM and this EIS to compare the potential impact of the activities listed in Table 4-22, at the levels proposed in this document.

p. 589: This is not an analysis of impact. An air quality impact analysis for each pollutant listed in Table 4-22, at the levels of activity proposed in this document (such as drilling estimates in Table 4-33, p. 588) should be prepared, with values for each pollutant and for each alternative.

- 52 p. 618: Table 5-2 does not address air quality coordination with the U.S. Forest Service and National Park Service for PSD protection of Class I Areas required under the Clean Air Act. The BLM's responsibility to demonstrate that permitted leasing action is not causing Significant Deterioration as defined in the Clean Air Act is likewise not addressed as a requirement.

- 53 p. 692: No standards for monitoring, reporting, or public review are included, even to the extent of those required under present law. For air quality management, permit-specific technical reviews are insufficient without a statement of present cumulative impacts and the consideration of each permit in terms of cumulative impact over the years during which this plan will be in effect. There is no statement for any specific pollutant besides H₂S. Please refer to your Table 4-22 for a partial listing of pollutants which may be of concern in this RMP.

- 54 p. 728, Map 89: A larger-area map showing the relationship between the Rock Springs District and nearby Class I areas is available in Acid Deposition in the Wind River Mountains, AQRV Report #2, Bridger-Teton National Forest, 1992. Because the Rock Springs District is part of larger airshed context, such a map should be included.

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188-47 See response to comment 188-46.

188-48 Thank you for the clarification. The Final EIS has been changed to reflect this.

188-49 See response to comment 94-13.

188-50 See response to comment 188-45.

188-51 See response to comment 188-45.

188-52 See the revised table in the Final EIS.

188-53 See response to comment 188-46. Except for H₂S, the BLM has no authority to set standards. The BLM Wyoming is making efforts to more closely tie together the permit review and EIS process.

188-54 The U.S. Forest Service is well aware of the status of BLM activity plans and site-specific EAs and EISs, regularly commenting on such documents. Additionally, we have maps on file in the District that show the relationship of the District to the Class I airshed. The BLM and Forest Service are cooperators in maintaining acid deposition stations as part of the National Acid Deposition Program. BLM Wyoming State Office staff assisted the staff at the Bridger-Teton National Forest in analyzing the data presented in *Acid Deposition in the Wind River Mountains*, 1992, A. Galbraith, C. Harrelson, and C. Rawlins, AQRV Report #2, Bridger-Teton National Forest.

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MINERALS

Coal

55 The preferred alternative authorizes coal leasing on virtually all (463,000 acres) of the 475,700 acres within the planning area known or thought to have coal development potential. Under this alternative, approximately 12,600 acres would be deemed "unsuitable" (as a result of the application of coal unsuitability criteria) for leasing consideration, and 405 acres in the North Fork Vermillion Creek drainage would be deemed "unacceptable" for leasing consideration.

By way of contrast, Alternative A, which reflects a continuation of existing management, authorizes coal leasing on only 76,608 acres in the coal development potential area. See RMP at 39. The remaining lands within the coal development potential area, including Areas of Critical Environmental Concern, migratory bird habitat, eagle nest sites and buffer zones, falcon cliff and nest sites, habitat for species of high interest to the state (such as elk, deer, and antelope), floodplains, aquifer recharge areas, and other important and sensitive areas are, under this alternative, off-limits to coal leasing and development.

Having carefully reviewed the Draft RMP, we conclude that the BLM's preferred alternative completely fails to provide the kind and degree of protection needed to maintain and enhance the other important resources and values present in the planning area. For example, this alternative authorizes coal leasing in big game crucial winter ranges and birthing areas, in the habitat of species proposed for listing under the Endangered Species Act, in significant cultural and historic sites, in wetlands and riparian areas, in grouse nesting and strutting areas, in Areas of Critical Environmental Concern, and in other sensitive and important areas. All of the alternatives displayed in the DEIS environmentally unacceptable.

Coal Screening

56 The Federal Coal Management Program established four major steps to be used in the identification of Federal coal areas that are suitable for coal development: 1) identification of areas having coal development potential; 2) application of the coal unsuitability criteria; 3) multiple use conflicts evaluation; and 4) surface owner consultation. This process is known as "coal screening."

WOC's comments focus on and identify problems with two

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188-55 See responses to comments 188-4, 188-5, and 188-6. No leasing decisions are made in the land use plan. The only decision the land use plan makes is the further consideration for leasing. Leasing decisions are a separate process at this time, through leasing by application. When the Regional Coal Team is certified and active, the leasing action is through a regional coal leasing response and process.

We disagree with your comment on the Preferred Alternative. To date, no habitat for T&E species that would be in conflict with coal development has been identified. If you have such information, we would be happy to review it through the coal screens.

The only lands we address are BLM-administered public lands. No designated National Register sites occur on BLM-administered lands. Important cultural sites located on BLM-administered lands have been conditioned with mitigation to protect those sites. Those sites would generally be avoided, or in some cases, subsurface mining only would be allowed.

Please refer to the ACEC section of the Draft EIS. Cedar Canyon provides protection for the petroglyph sites through allowing subsurface mining only. Crucial winter ranges are provided protection through sequential development following acceptable reclamation. Please note the other ACEC sections for specific information on coal leasing for those areas. Please see pages 160-161 of the Draft EIS for mitigation for sage grouse.

Note that the definition of crucial winter range on page 622 of the Draft EIS is partially in error and has been corrected in the Glossary of the Final EIS. Severe winter relief area definition is included although we are not aware of any such areas at this time. Use of these definitions was agreed to with the Wyoming Game and Fish Department and the Wildlife Society to provide for consistency in management. We will consult with the Wyoming Game and Fish Department on this when a lease application is filed.

See Appendixes 3-1 through 3-3 for a detailed description of how we applied the criteria.

We feel that adequate mitigation is provided. Further inventory, analysis, and consultation will be required prior to leasing. At that time, specific prescriptions for Threatened and Endangered and candidate species, cultural sites, riparian areas, and wildlife habitats would be developed in consultation with the USFWS, SHPO, Wyoming Game and Fish Department, and other agencies as appropriate. Crucial winter ranges would only be considered for leasing provided a balance between coal leasing and development and adequate crucial winter range and birthing area habitats to prevent significant adverse impacts to important big game species could be maintained. This would be accomplished through controlled timing and sequencing of Federal coal leasing and development in these areas.

188-56 See responses to comments 11-6, 11-12, 58, 188-4, 188-5, and 188-6. For criterion 1, none of the land systems mentioned exist in the coal area. If a resource is not known to exist, the criteria do not apply. If you know of any, please identify them for us. Additional information on the application of the unsuitability criteria is on file in the Green River Area Office.

The application of the criteria 10 through 15 would require a field inspection. We recognize that further information would have to be obtained prior to leasing. We are not deciding in the

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56 critical aspects of the coal screening process: application of the unsuitability criteria and multiple use conflicts evaluation. Our review of the Draft RMP reveals that the unsuitability criteria have been applied in a manner contrary to Federal regulations. See, generally, 43 CFR 3461.2. First, decisions concerning unsuitability appear to have been made in an arbitrary fashion, without required consultation with and concurrence of other Federal agencies. Second, the Draft RMP fails to contain an adequate discussion of the rationale for unsuitability decisions, particularly with respect to the apparent use and misuse of exceptions and exemptions. Third, the RMP fails to provide an indication of the adequacy and reliability of the data used. Finally, the RMP fails to consider a reasonable range of alternatives with respect to areas deemed suitable and/or unsuitable for coal leasing.

The RMP also fails to properly evaluate potential multiple use conflicts and lacks a reasonable range of alternatives with respect to this issue.

Unsuitability Criteria.

The Surface Mining Control and Reclamation Act of 1977 ("SMCRA" or the "Act"), 30 U.S.C. 1201 et seq., established a broad federal mandate to "protect society and the environment from the adverse effects of surface coal mining operations." See 30 U.S.C. 1202(a). In order to achieve this lofty goal, the Act permits surface coal mining operations only where protection of the environment can be "assured." Id. at 1202(d). Moreover, the Act prohibits surface coal mining in areas where reclamation is not feasible. Id. at 1202(c).

Pursuant to these environmental protection goals, Section 522 of SMCRA requires the BLM to "determine . . . whether there are areas on Federal lands which are unsuitable for all or certain types of surface coal mining operations." See 30 U.S.C. 1272(b). This determination is based upon the "application" of 20 different "unsuitability criterion" to all lands identified as having coal development potential. See 43 CFR subpart 3461. Under this subpart, the unsuitability criteria may be applied either during land use planning or, in the alternative, during the environmental assessment for a specific lease application. However, in both cases, the unsuitability criteria must be applied "prior to lease issuance."

Coal screening and planning was initially completed for the coal development potential area within the Green River Resource Area in 1981. However, much of the data and results from the 1981 analysis are now outdated. Thus, according to the Draft RMP,

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56 "a) complete, new application of the coal screening process, including application of the Coal Unsuitability Criteria (43 CFR 3461) will be completed in the course of the planning effort." See RMP at 13.

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On page 647, the RMP states that "the 20 coal unsuitability criteria were applied to all known and assumed coal development potential areas." The U.S. Fish and Wildlife Service (USFWS), however, stated in their comments on the RMP that "[t]he last field application of the unsuitability criteria by our respective agencies for the coal planning area was conducted in 1981." What's going on here? Who's right, BLM or USFWS?

We assume, in most instances, that "application" of the unsuitability criteria connotes (and necessitates) a direct field examination of the conditions present on the ground. Evidently, such an examination has not occurred. Now, then, are you able, on the basis of old, unreliable, and outdated information (your admission), to make a proper determination concerning whether certain areas within the coal development potential areas should be unsuitable for coal mining?

Please explain, in detail, exactly how you applied the 20 criteria for assessing lands unsuitable for coal mining. Your regulations require you to "describe in the comprehensive land use plan or land use analysis the results of the application of each unsuitability criterion, exception and exemption." See 43 CFR 3461.2-1(a)(3). The unsuitability analysis is too important and central to the purposes of land use planning to incorporate by vague reference, as you appear to do on page 652. This issue is important to WOC and your obscure methodology thwarts meaningful public review of the process. We expect the BLM to carry out the purposes of SMCRA and to adhere strictly to its regulations in this regard. Accordingly, please review and comply with 43 CFR Subpart 3461.

Criterion Number 1: Federal Land Systems. Your discussion of the criterion is improperly limited to federal lands in incorporated cities and towns. Note that this criterion also includes, and prohibits mining within, national parks, forests, and wildlife refuges, within wild and scenic river corridors and national trail systems, wilderness areas and recreation areas, and on lands acquired with money derived from the Land and Water Conservation Fund. See 43 CFR 3461.5(a)(1).

The absence in the RMP of any discussion of these additional federal land categories suggests to us that they were not considered in your application of the coal unsuitability criteria. Were they taken into account? If you did consider

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these additional factors, why weren't they mentioned in the document? Are any of these categories or "federal land systems" present in the coal development potential areas?

We believe potential (those deemed eligible and under study) wild and scenic river corridors in the coal development potential area (if any) must also be designated unsuitable.

57 **Criterion Number 7: Historic Lands and Sites.** It is unclear from your discussion whether the "sites" listed under this heading within the coal development potential area (Natural Corals, Overland Trail, Cedar Canyon Petroglyphs, etc.) are listed or eligible for listing in the National Register of Historic Places. Are these "sites" listed? Under 43 CFR 3461.5(g)(1), such listed sites "shall be considered unsuitable." You have concluded, however, that "No areas were determined to be unsuitable under this criterion." What is the legal basis for your conclusion?

The rule provides that "[a]ll or certain stipulated methods of mining may be allowed if, after consultation with the Advisory Council on Historic Preservation and the State Historic Preservation Officer, they are approved by the surface management agency and, where appropriate, the State or local agency with jurisdiction over the historic site." You provide no indication in the RMP that such required consultation has occurred. Has it?

The rationale for your determination that no areas are unsuitable under this criterion must be explained. It appears that in making such a determination you have relied upon the exception set forth in 43 CFR 3461.5(g)(2) without first securing the concurrence of the aforementioned agencies. Obviously, such action is illegal. Please explain.

Indeed, throughout your entire discussion of the application of unsuitability criteria, you appear, without actually saying so, to be relying heavily upon the numerous exceptions and exemptions provided for in the rules. If this is the case, note that 43 CFR 3461.2-1 requires you to "describe . . . the results of the application of each unsuitability criterion, exception and exemption." (emphasis added). By not providing this information, you are preventing (or at least severely hampering) any kind of reasonable and meaningful opportunity for public review.

58 **Criterion Number 8: National Natural Landmarks.** While this criterion requires that both "natural areas" and "National Natural Landmarks" be designated unsuitable for mining, you mention, in concluding that there are no areas unsuitable

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land use plan to lease, rather, we are just giving consideration to leasing. These resources would be reviewed prior to that consideration, which includes a site specific NEPA analysis before a lease can be issued.

Any aspects unknown at the time the land use plan was developed, concerning unsuitability criteria or any other facet of the screening process, are revisited and accounted for. If a lease is issued, mine plans are again evaluated through a NEPA process with DEQ, OSM, and BLM review and involvement. These are monitored continually through the mining process until mining and reclamation are complete.

We initiated consultation with the USFWS on the unsuitability criteria in 1991. It was recognized the current inventories on raptor nests, buffers, species of high Federal interest, etc. were not available and that inventories and reviews would have to be completed prior to leasing. This and the requirement for further consultation were incorporated into the mitigation on the appropriate unsuitability criteria. See Appendix 3-2 (1995 Coal Screening Process Summary) in the Final EIS.

There are no alternatives to coal unsuitability criteria. Those resources or situations that fit the criteria, are identified. Where exceptions apply, these were carried through the alternatives. This same procedure was not necessarily applied during the coal screening process described under Alternative A, which does not include a NEPA analysis.

188-57 Criterion 7 does not apply. These resources or facilities do not exist in the coal review area. This applies only to sites listed on the National Register; we do not have any listed sites. Eligible sites were reviewed through the multiple use conflict analysis. The findings are described in Appendix 3-2. See responses to comments 11-6 and 188-56.

188-58 Lands with National Natural Landmarks and candidate plants are not found in the coal review area. The plants indicated are adjacent to and just outside the area.

Site specific analysis and inventory for threatened and endangered species habitat, would be done prior to leasing and again at the mine plan stage. Such factors would be monitored throughout the mining and reclamation process. Further consultation with U.S. Fish and Wildlife Service will be conducted. These species could locate in the area at any time so up-to-date inventories would be required. Please refer to page 160 of the Draft EIS for further guidance.

As with Threatened and Endangered species, further field investigation and consultation with USFWS for other raptor species would be accomplished prior to leasing. Consultation with USFWS on the coal criteria occurred in 1992, and the concerns raised at that time have been incorporated as mitigation for coal leasing and development. Once again, we are not making leasing decisions at this time. See responses to comments 11-6, 11-12, and 188-56 for a description of the application of the exception criteria.

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under this criterion, only that "[t]here are no designated National Natural Landmarks within the coal development potential area." See RMP at 653. Under 43 CFR 3461.5(h)(1), "designated natural areas," in addition to "National Natural Landmarks," must be considered unsuitable. Given your narrow reading of the rule, we wonder if it has been applied properly. Are there any designated "natural areas" in the coal development potential area? Such areas are unsuitable.

Criterion Number 9: Federally Listed Endangered Species Habitat. Once again, in concluding that there are no areas unsuitable for coal mining in the coal development potential area, you ignore an important aspect of an unsuitability criterion. In addition to prohibiting mining in designated and proposed critical habitat for listed threatened or endangered plant and animal species, Criterion Number 9 also, importantly, prohibits mining in the habitat of species proposed for listing. See 43 CFR 3461.5(i)(1). We note that Map 4, Candidate Plant Species, shows a candidate plant species site within the south eastern portion of the coal development potential area. Why hasn't this site been designated unsuitable, as required under your regulations?

There may be other candidate species within the coal area, such as the ferruginous hawk, requiring a unsuitability designations. Has the coal development potential area been surveyed for the presence of other candidate species? If so, when? Please explain the procedure and methodology utilized.

You are respectfully reminded that under this criterion, habitat for such species is considered unsuitable. The only exception to this rule requires a finding by the USFWS that the proposed activity is not likely to jeopardize the continued existence of the species or its habitat.

The USFWS in its comments on the Draft RMP has indicated, contrary to your conclusion, that the coal development area may contain threatened and endangered species. Consequently, USFWS recommended that your finding (that there is no T&E habitat within the coal development potential area) be modified and that the area be inventoried for the presence of such species. (Note that under 43 CFR 3461.2-1(b)(1), such an inventory may be "deferred" and the application conducted "prior to finalizing the environmental analysis for the area being studied for coal leasing.") How is it that you can make such determinations with respect to T&E species prior to an actual field application of this unsuitability criterion? We are deeply troubled by your blanket (and unsupported) statements that no T&E species are present in the coal development area. Please explain.

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Criterion Number 11, 12, 13, and 14 (Bald and Golden Eagle Nest Sites and Roosts, Falcon Cliff Nesting Sites, Migratory Bird Habitat). The USFWS also disagrees with your conclusions regarding unsuitability criteria #11, #12, #13, and #14. All of these "features" are present in the coal development potential area and under SMCRA and implementing regulations, all must be considered unsuitable for surface coal mining. The rule is quite clear in this regard. Yet you, incredibly, have concluded that no areas were determined to be unsuitable under these criteria.

Indeed, under Alternative A, the no action --continuation of existing management-- alternative, these areas are unsuitable. See Appendix 3-1, page 643. For example, under Alternative A, over 8000 acres of eagle nest and buffer areas, 6000 acres of falcon cliff and nesting areas and 10,000 acres of migratory bird habitat have been designated unsuitable. Under every other alternative, however, these important areas are available for coal development. Why are you backing away from necessary protection for these species? Like USFWS, we disagree strenuously with your unsupported conclusion that the mitigation measures you have identified provide an acceptable level of protection for these important species.

It is obvious to us that you have improperly attempted to avail yourselves of the exceptions to these rules without either consulting with or obtaining the approval of the USFWS. Consultation with and concurrence of USFWS is a condition precedent to leasing under an exemption. Judging from USFWS statements, it appears this was not done. Further, you have even failed to specify, in violation of 43 CFR 3461.2-1, that the exemptions were being employed. We think an explanation is in order.

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Criterion Number 15: Habitat for State High-Interest Species Under 43 CFR 3461.5(o)(1), lands that serve a "critical function" for priority plant and animal species must be considered unsuitable. These lands include, for example, crucial winter range for deer, antelope, and elk; and active strutting grounds for sage and sharp-tailed grouse.

Over 4000 acres of habitat within the planning area for high interest species is currently deemed unsuitable. See RMP at p. 643. Yet, despite the fact that such species are present in the coal area, you have concluded that no lands are unsuitable. Why? Please explain the rationale for your decision to allow coal leasing in these areas. It also appears that Wyoming Game and Fish Department would prefer to see these lands remain unsuitable. See RMP at page 618, 619. Have you consulted with and received the concurrence of the WGFD on this issue? And are

188-59 See responses to comments 11-6, 11-12, 188-56, and 188-58. Crucial winter ranges were defined differently during the previous coal screening process, thus acreages are not comparable between Alternative A and the other alternatives. Also, winter range areas have changed over time. We did consult with the Wyoming Game and Fish Department on this criteria and appropriate mitigation has been included in the Preferred Alternative.

you relying upon an exemption in indicating that these areas will be leased? Please explain.

The no action alternative appears to offer greater protection to these species than does any other. What possible rationale can there be for weakening the measures imposed under the current management situation for protection of these species?

- 60** Criterion Number 16: Riverine, Coastal, and Special Floodplains. The RMP indicates that there is "incomplete data" for wetlands and riparian areas. What data is incomplete? Did BLM utilize USFWS National Wetland Inventory maps in this undertaking? If not, please explain the procedure used to identify wetlands. We believe it is inappropriate to make a decision with respect to these features on the basis of incomplete data. NEPA regulations contain very specific provisions you must follow when dealing with incomplete data. See 40 CFR 1502.22. In addition, BLM regulations at 43 CFR 3461.2-1(b)(1) allow you to defer application of this and all criterion until such time that the data becomes available. Please review (and comply with) the rules governing your action in the absence of incomplete data.

We understand that you intend to lease wetlands and riparian areas, and that impacts to these important features will be "mitigated" by avoiding them, "if possible." We believe that wetlands and riparian areas should not be leased. Impacts caused by destruction of natural systems can rarely, if ever, be "mitigated." Additionally, it appears that you have failed to consult with Corps of Engineers on this matter. As you know, COE has jurisdiction over wetlands and waters of the US and must be consulted before actions damaging these features occur.

Multiple Use Conflict Analysis.

- 61** According to your regulations, "[m]ultiple land use decisions shall be made which may eliminate additional coal deposits from further consideration for leasing to protect other resource values and land uses that are locally, regionally, or nationally important or unique and that are not included in the unsuitability criteria" See 43 CFR 3420.1-4(e)(3). These resource values include "fragile or historic lands in which [surface coal mining] operations could result in significant damage to important historic, cultural, scientific, and esthetic values and natural systems" See 30 USC 1272(a)(3).

In making these multiple use decisions, the regulations direct you to "place particular emphasis on protecting" air and water quality, wetlands, riparian areas and sole source aquifers.

It is obvious from our review of the analysis that this requirement has not been met.

SPECIAL MANAGEMENT AREAS AND AREAS OF CRITICAL ENVIRONMENTAL CONCERN (ACECs)

Section 202 of FLPMA requires that priority be given to the designation and protection of areas of critical environmental concern in the development of land use plans. See 43 U.S.C. 1712(c). ACECs "are areas within the public lands where special management attention is required . . . to protect and prevent irreparable damage to important historic, cultural, or scenic values, fish and wildlife resources or other natural systems or processes" See 43 U.S.C. 1702(a).

You have identified (and displayed on page 322) a number of areas within the resource area requiring special management attention. We urge you to maintain all existing ACECs and designate the additional ACECs proposed under Alternative C (Map 55, page 322).

- 62** We are very much in favor of and support the designation of the South Pass Historic Landscape as described in Alternative C. We believe it needs to be much larger than that proposed (87,580 acres), however, in order to maintain and protect the area's essential integrity. Because the South Pass area is nationally significant, the area should be placed OFF LIMITS to linear features, mineral entry, oil and gas leasing, etc. Simply stating that the area would not be a "preferred route" fails to provide any real or meaningful protection. The entire area should be a right-of-way EXCLUSION AREA, and not merely an avoidance area, which provides, in our view, inadequate protection. The South Pass area should not have to endure proposals as damaging as Altamont's will likely be.

WILD AND SCENIC RIVERS

- 63** In passing the Wild and Scenic Rivers Act, the Congress enunciated a national policy of preserving in their free-flowing condition "certain selected rivers of the Nation which, with their immediate environments, possess outstandingly remarkable scenic, recreational, geologic, fish and wildlife, historic, cultural or other similar values" and protecting their immediate environments "for the benefit and enjoyment of present and future generations." See 16 U.S.C. 1271 *et seq.*

Rivers meeting these criteria are found within the Green River Resource Area. Accordingly, WOC supports the inclusion of (and the current recommended classifications of) the following

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- 188-60** The term "incomplete data" for riparian and wetland areas is referring to the fact that our NWI maps have not been digitized into our MOSS GIS and we have used a best estimate of the total acres involved within the coal leasing area. Floodplain maps by HUD are also incomplete so we use our best judgement on those areas also. We use the NWI maps as a starting point for wetland determinations, but even they do not always correctly delineate jurisdictional wetlands since they are based solely on light reflectance of vegetative material. As such, when delineating a jurisdictional wetland we would need to do a site-specific inventory when, and if, a mine plan were to be developed. Leasing would take place only after a mine plan and EIS were developed. This screening process only makes these areas available for consideration. We disagree that the areas cannot be avoided or mitigated but you are correct that the "natural" or pre-existing features would in all likelihood not be recovered (i.e., springs, seeps, and other features tied to ground water) if allowed to be removed. The Corps of Engineers would be consulted during the normal planning and permitting process.

- 188-61** We feel we have met the obligations of the coal screening process. These lands were found suitable for further consideration for leasing. We will not immediately initiate leasing in the area but when an application is received, further consultation and analysis will be required. Mitigation and resource management requirements will have to be met. Please see Appendix 3-3 of the Draft EIS, for a discussion on Multiple Use conflict analysis. However, we did overlook including the conflict analysis for Alternative B in the Draft EIS. We have included this in the final document.

- 188-62** Thank you for your comments. Please see response to comment 97-4.

- 188-63** Most of the rivers that were "eligible" were found not to be "suitable" for inclusion into the National Wild & Scenic River System (NWSRS), based on the screening factors listed in the document.

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eligible (i.e., those possessing such outstanding features) rivers into the National Wild and Scenic Rivers System: Beef Steer Creek, Big Sandy River, Currant Creek West Fork, Currant Creek, Canyon Creek, June Creek, North Fork of Bear Creek, Pacific Creek, Red Creek, Little Red Creek, Sweetwater River, and the Green River.

- 64** We also have serious doubts about --and may challenge-- the legality of BLM Manual 8351 which establishes a new eligibility criterion. Section 1(b) of the WWSRA establishes the criteria for determining a river's eligibility for inclusion in the National Wild and Scenic Rivers System: the river must be "free-flowing" and it must possess one or more "outstandingly remarkable" values. Thus, we fail to understand BLM's rationale for adding an element for determining eligibility which clearly is not part of the statutory scheme. Simply put, land ownership is not, nor should it be, determinative of a river's eligibility for inclusion in the System.

MONITORING AND EVALUATION

- 65** Appendix 1-1 of the DEIS contains a brief description of the planning process. According to the DEIS, Step 9 of the process "involves monitoring the selected plan, after it is implemented, and evaluating the results of the implementation. Data on long-term trends and resource conditions will be collected and analyzed to determine the effectiveness of the plan." See DEIS at 634.

BLM planning regulations at 43 CFR 1610.4-9 require that intervals and standards for monitoring and evaluating be established and displayed in the plan. Contrary to this rule, the DEIS fails to provide any discussion of the intervals and standards that will be applied for monitoring and evaluation of the plan. Why is there no discussion of this critically important stage in the planning process? At what intervals will monitoring occur? What standards will be applied? Please explain in detail how BLM intends to fulfill its obligation to monitor and evaluate the plan in accordance with applicable laws and regulations.

Additionally, we believe that NEPA and BLM regulations require opportunities for public participation in the development of these intervals and standards. The CEQ has stated: "Federal agencies shall to the fullest extent possible encourage and facilitate public involvement in decisions which affect the quality of the human environment." See 40 CFR 1500.1. "Public

Comment Responses

188-64 Thank you for your comment. The issue of the role of private lands in considering a river or river segment's eligibility for inclusion into the National Wild and Scenic River System has been extensively debated. On one hand, the Act is interpreted to mean all rivers regardless of ownership; and on the other hand Federal designation of rivers flowing through non-federal lands is viewed as a "taking" or an action which adversely affects private land rights.

At the very beginning of the Wild and Scenic analysis for the Green River RMP EIS, we decided that we would **not** analyze river segments which flowed through lands not managed by BLM. That message was subsequently included in all public meetings, presentations, briefings, and press releases. We received no requests or input to the contrary. Additionally, since the Manual was released, the BLM-administered land ownership criteria for eligibility has been removed.

188-65 Please note that the 43 CFR 1610.4-9 states that "the proposed plan shall establish intervals and standards, as appropriate for monitoring and evaluation of the plan." Every resource action is reviewed for consistency and conformance with the land use plan. Thus, monitoring and evaluation can occur almost daily. Standards used include the applicable laws, policy, and the supplemental program guidance that was used in formulating the plan. Since actions would be reviewed for conformance and consistency, we feel evaluation would be adequately accomplished. Since it is impossible to determine when an action would be submitted or initiated to evaluate, or when policies and laws may change, a specific timetable cannot be established. Please note the plan implementation does establish appropriate time frames and accomplishments. As individual actions are implemented, they are available for public review and comment. The related NEPA documents are also available for public review and comment. This process provides for continued public involvement in the planning process.

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Renee Dana
April 16, 1993
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scrutiny is essential to implementing NEPA." *Id.* Obviously, decisions regarding standards for and intervals of monitoring will have an impact on the environment.

We appreciate having this opportunity to comment on the above-captioned document. Please keep us apprised of any additional opportunities for public involvement in the planning process. We look forward to reviewing, and participating in, the significant revisions to this document.

Sincerely,

Dan Heilig

Dan Heilig
Associate Director

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Sweetwater County Farm Bureau
P.O. Box 81
Farson, Wyoming 82932

February 22, 1993

Renée Dana, Team Leader
Bureau of Land Management
Rock Springs District
P.O. Box 1869
Rock Springs, Wyoming 82902

Dear Ms. Dana:

In response to the September 17, 1993, Green River Resource Area Environmental Impact Statement and Resource Management Plan, Sweetwater County Farm Bureau wishes to enter the following comments.

- 1 In reading the Environmental Impact Statement and Resource Management Plan for the Green River Resource Area, it is evident that not enough consideration was given to the economic impacts and our local tax base.
- 2 With our National Debt exceeding \$4 Trillion, it is impractical for the Bureau of Land Management to have in their plan acquisition of more land. This would only cost the Federal Government more money and take private land off the tax roll. Removing private land from the tax roll negatively affects many things including our schools. Sweetwater County School District #1 is currently wanting to levy 2 mills to make up for their revenue losses.
- 3 With the large percentage of Federal land in this area, many of the private sector jobs are on Federal land. There are also many service industry jobs that provide goods and services to the businesses that operate on Federal land. Almost every business in this area either directly or indirectly benefits from the consumptive uses of our Federal lands. There are many restrictions throughout the Environmental Impact Statement and Resource Management Plan that either withdraw eligible land from certain industries or impose restrictions that would further increase costs to industry. These withdrawals and restrictions should be reconsidered.

The range improvements (water development and brush control) mentioned in the Environmental Impact Statement and Resource Management Plan are very commendable and are good examples of

Comment Responses

189-1 Thank you for your comment. We have included additional economic information in the RMP Final EIS. Also see responses to comments 28-8, 33-10, and 185-4.

189-2 The priority for acquiring significant resource lands is through exchange. Current policy is to exchange lands if possible within the boundary of a county.

189-3 Thank you for your comment.

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page 2

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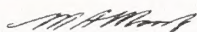
the kind of progressive planning that should dominate the Resource Management Plan. Since 1985, Wyoming Game and Fish Commission statistics show there has been a substantial increase in wildlife population in the resource area. This increase is a positive sign that shows nature and industry can co-exist.

There are already adequate laws and regulations to protect our Federal lands, and to insure that these lands are reclaimed properly. It is important that we allow all industries that use Federal land the flexibility to provide jobs and produce commodities without undue restrictions.

This is the time for responsible Government from President Clinton and Congress to the authors of this Environmental Impact Statement and Resource Management Plan.

Sincerely yours,

SWEETWATER COUNTY FARM BUREAU


Maurice Moody, President

MM:ch

cc: Secretary of the Interior Bruce Babbitt
Senator Malcom Wallop
Senator Alan Simpson
Representative Craig Thomas
Agriculture Secretary Mike Espy

February 1, 1993

Renee Dana, Team Leader
Bureau of Land Management
Rock Springs District
Box 1869
Rock Springs, WY 82902

Dear Mrs. Dana:

After reviewing the Green River Resource Area Resource Management Plan and Draft Environmental Impact Statement, the Wyoming Farm Bureau Federation would like to submit the following comments. As the largest agricultural organization in the state, Farm Bureau represents over 2,500 agricultural producers, many of whom depend on federally owned lands for their livelihood. Farm Bureau appreciates the opportunity to comment on the Resource Management Plan and Draft Environmental Impact Statement.

- 1 It appears the Bureau of Land Management has failed to seek complete public comment when planning and drafting this document. It is obvious that most of the associations and interest groups that were contacted for consultation and coordination were environmental and animal rights groups. However, as the largest agricultural organization in Wyoming, Farm Bureau was not asked to submit comments during the initial scoping. Since this resource management plan and environmental impact statement directly affects the agricultural industry, the Bureau of Land Management's scoping process should have included Farm Bureau.

The Green River Resource Area Resource Management Plan and Draft Environmental Impact Statement instigates an assortment of questions and concerns. Most of these are because the EIS is extremely vague and broadly worded. Statements that are vague can be interpreted differently by everyone involved. This will create confusion and turmoil between BLM, permit holders, and public land users. Our comments that follow will address numerous statements found in the EIS in an attempt to clarify what is being stated and to gain more specific information regarding grazing, riparian areas, recreational areas, fencing, vegetation management, wetlands, wildlife, and other management issues.

- 2 Farm Bureau is concerned with the statement on page 5 of the EIS, "The approved Green River RMP will supersede all existing management framework plans and other general planning decision documents for the planning area." Throughout the EIS, there are referrals to other plans, statements, and regulations that are in numerous places. Therefore, this document leaves us unsure as to

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weather this plan supersedes all plans or just what plans supersede what. On page 13 it is stated "mitigation ultimately included in the approved RMP, that are developed through the use of the standard mitigation guideline, could later be waived, modified, excepted or combined with other conditions of resource." How is this going to be determined? What are the other conditions that may be combined? Will permit holders have any say on the final modifications and other conditions? Also, on page 14 it is stated that wilderness management will not be addressed because there are two existing plans. Does this mean that these two plans will not be superseded by this RMP? Page 145 states, "Management actions identified in the Rangeland Program Summary Update (1990) would continue to be implemented." How can it be implemented when it is supposed to be superseded? On page 176 it is also stated that the guidelines in the Wyoming Water Quality Rules and Regulations would be applied. What guideline from the Water Quality Rules and Regulations apply here?

- 3 Page 17, "Elimination of Livestock Grazing," this is very unreasonable and impractical not just due to technical, legal, or policy factors; but for many other reasons. Livestock grazing is an essential part of livestock production; and this production is a way of life and the means in which to earn a living. Livestock grazing is also a valuable management tool which can promote plant vigor and diversity, aerate soil, and disperse seeds. A proper grazing system will also eradicate old, dead growth off the rangeland creating room for new growth and aid in the prevention of fires. When setting up guidelines they are supposed to recognize the culture, and present cultural uses of the land include livestock grazing. To eliminate this would be to destroy the culture and violate NEPA.

- 4 According to "public comments" received, which is cited twice on page 18 of the EIS, there is a general acceptance for livestock grazing and mineral leasing and development, provided it is "properly managed." What is "proper management?" Who determines what proper management is? What standards and methodology are used to determine properly managed rangeland? Those who use the land for livestock grazing, manage the land to the best of their knowledge and ability since their livelihood depends upon these lands. Is this considered "proper management?"

- 5 The EIS's preferred alternative states that it is a "guidance which emphasizes neither resource utilization nor resource protection." Instead, "The objectives described in the alternative would be used to make resource tradeoffs which could favor resource utilizations, resource protection, or a compromise between them." This seems to be contradictory. First it says that neither would be emphasized, then the very next sentence states that there could be a favoring. Wouldn't favoring and emphasizing be the same thing? Then we can move further down page 19 under the candidate plant species management actions where it states that known

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Comment Responses

190-1 Public comment was solicited throughout the planning process. Early in the process, *Federal Register* notices were published, newspaper articles and radio announcements issued, and open houses held. We continually requested information, concerns, and additional input. Sadly, we received little. We provided mailouts and updates of our progress and requested reviews of criteria and resource potential. Experience has shown, however, that most substantial comments are received on the Draft EIS and interest and participation prior to the draft is severely limited.

190-2 The current land use plans (such as the Big Sandy and Salt Wells MFPs) would be superseded by this document.

As part of Appendix 2 (Wyoming Bureau of Land Management Standard Mitigation Guidelines for Surface-Disturbing Activities), the discussion of each mitigation guideline includes an explanation of how an exception, waiver, or modification would be applied. Site-specific environmental analysis at the project stage may require additional restrictions or mitigation. Permit holders can apply for modifications, as discussed in Appendix 2.

You are correct, the two wilderness plans would not be superseded by this RMP.

The Rangeland Program Summary Update is not superseded by the RMP. It becomes a part of the RMP.

The guidelines referenced are those provided in the DEQ Water Quality Rules and Regulations.

190-3 Elimination of livestock grazing is one alternative that must be discussed. However, it was dropped from detailed analysis.

190-4 Proper management can be described as the management desired and or achieved to reach resource objectives. These objectives are developed by Bureau specialists, permittees, and other federal or state agencies if needed. Monitoring of actual use, climatic conditions, trend, and utilization are the methods use to determining if resource objectives are being met or exceeded. The permittees' cooperation is essential if proper management is to be achieved.

190-5 Under the concept of multiple use, no resource is to be developed to the detriment of another resource. This guidance was intended to balance resource use with resource protection as they are both equally relevant in managing for multiple use and ensuring sustainable productivity of the land.

Surface disturbance is defined in the Glossary as an action that would cause soil mixing or result in alteration or removal of soil or vegetation and expose the mineral soil to erosive processes. Surface disturbing activities include those actions created through mechanized or mechanical means. Surface disturbance on known Candidate or T&E plant species habitat could eliminate plants. The BLM is directed not to authorize actions that would cause any Candidate species being listed as T&E and to protect T&E status plants. Restrictions on certain areas may be necessary to protect these values. Restrictions to livestock grazing would be reviewed on a case-by-case basis.

locations of these communities will be protected and closed. Closed to what? This does not appear to be a compromise but a complete resource exclusion. The document states that these areas will be closed to "surface disturbing activities that could adversely affect the plants or their habitat." What does surface disturbing activities include? Does this include livestock grazing? Will these areas be closed down to all interactions. How will this affect multiple use?

- 6 The management actions for livestock grazing, on page 145, brings with it some concerns and questions as well. What are the special management exclosures? Where are these exclosures located? Next, the EIS states, "All developed and semi-developed recreation areas would be closed to livestock grazing and would be fenced to reduce conflicts between uses." What signifies developed and semi-developed recreation areas? How will these areas be determined? Who will have the authority to say what areas constitute developed and semi-developed areas? What other management alternatives were explored? Who will be responsible for putting up these fences to "reduce conflicts." Farm Bureau policy states, "boundary fence building and maintenance costs should be shared equally by adjoining landowners, whether they be private landowners or federal agencies, such as the Bureau of Land Management, Bureau of Indian Affairs of Forest Service" (Wyoming Farm Bureau Federation, 1993 Official Compiled Policies). Who will be responsible for fence costs and maintenance?

- 7 Page 145 also states that "Authorized grazing preference may be reduced in areas with excessive soil erosions and poor range conditions...or if necessary to provide forage for wildlife, wild horses, and recreational use." How does the Bureau of Land Management determine the conditions of rangelands? What standards and methodology are used to measure "excessive soil erosions" and "poor range conditions?" What are poor rangelands? Is it rangeland not up to last years standards or how it was ten years ago? Livestock producers must pay for their use of the land. Who will pay for wildlife, wild horses, and recreational use? What makes them more privileged to have first priority to the land? If there isn't enough grazing for the livestock, will wildlife and wild horse numbers be decreased?

- 8 The Preferred Alternative and Alternative A have the same goals for riparian area management (pages 145 and 212). This goal is to "achieve a proper functioning condition of 75 percent or more of riparian areas in 10 years." What is the "proper functioning condition" of riparian areas? How will this be determined? Where did the 75 percent come from? Is 10 years reasonable? How will this affect livestock grazing?

On page 145 it states that fire would be the preferred method of vegetation manipulation. Who will be responsible for the burns?

- 9 Who will be financing these projects? It also states that 41,100 acres of vegetation removal would be for wildlife habitat improvement, while only 26,700 acres would be for livestock benefit. Where did these numbers come from? Are they reasonable?

According to page 146, "construction of approximately 27 miles of fence would be considered to meet management objectives." Twenty-seven miles of fence will be a costly expense. Where will this money come from? It also states that present fences would be "removed, modified, or reconstructed if documented wildlife conflicts occur." What kind of documented conflicts will be necessary to initiate the changes? Who will be responsible for making these changes? Will all modifications and reconstructions remain within the BLM's construction standards and design (BLM Manual 1740)?

- 10 The vegetation management on page 172 states that the preferred method of vegetation manipulation is by fire. Can we assume that mechanical, biological, and chemical treatments can be used without interference or harassment? What kind of stipulations will be set for other means of manipulation? Will there be cooperation with the BLM to coordinate these manipulations? The stipulations are 35 percent or greater sagebrush cover, 20 percent desirable grass composition, and greater than 10 inches of precipitation. How closely must these guidelines be followed? Will it be necessary after all methods to rest the land for two growing seasons? Will the BLM cooperate and assist with the manipulations?

- 11 What is a wetland? Under the watershed and soils management on page 176 it states that "damaged wetland areas would be restored." There has never been a specified definition for what is considered a wetland. If it is a wetland, what criteria is used to determine if it is damaged? What do damaged wetlands look like? Does the BLM consider wetlands that have been created by ag producers? What are the characteristics of a wetland? How are we to restore these wetlands? When will it be considered restored? How will this restoration happen? What needs to be done and will the permittee be involved? We would like answers to these questions.

- 12 The wildlife management objectives on page 182 discusses achieving a healthy and productive condition of wetlands/riparian areas. What are healthy and productive conditions? What standards are used to determine this? It also states that "wildlife habitat would be managed to maintain the biological diversity of plant and wildlife species within habitat capabilities." What degree of diversity is trying to be met with the maintenance of plant and wildlife species? What is considered "habitat capabilities?" How will this diversity be accomplished within the habitat capabilities? Where is the definition for biological diversity? When will land managers know when they have achieved biological

Comment Responses

190-6 Information concerning the Special Management areas and exclosures can be found in the Green River Resource Area files and the MSA for the RMP. Developed recreation sites have two or more developments or "improvements" such as an interpretive sign, defined campsite, fire ring, picnic table, etc. A semi-developed site only has one development. The Bureau, after consultation with other federal or state agencies, permittees, and concerned public has the authority to develop any recreational site on public land. Fencing a site can be done by the BLM or any other agency or permittee if it is authorized. Maintenance of any structure will be decided by who will receive the largest benefit from the improvement. See revised text. Not all semi-developed recreation areas would be fenced.

190-7 Monitoring of trend as outlined in Bureau manuals is the method of determining the health of the rangeland. The standards are contained in these manuals and can be found in the Green River Resource Area. It is true that permittees must pay for use made on public lands. But this is also true for the timber and mineral industries. In certain area fees are collected for recreational use. Wildlife and wild horses are considered resources and not uses. If monitoring data determines that adjustments are necessary for wildlife or wild horses to reach resource objectives, then these recommendations will be made.

190-8 Proper Functioning Condition is defined in the Glossary of the Final EIS. The 75% was established by the Bureau in a policy statement. Determination of functioning condition will be made through monitoring. The 10-year time frame is for site specific areas where management has been established. It is not realistic to meet the 1997 goal. It is, however, one of our priority management goals to meeting the 75% riparian initiative as soon as possible. The known effect to livestock grazing at this time is more intensive management of livestock.

190-9 The actual figure for prescribed burning is 67,700 acres. This is the acreage figure considered in the preferred alternative. The responsibility for conducting burn belongs to the BLM. Financing can come from appropriated funds or through contributed funds. The 41,100 and 26,700 acreage figures came from analyzing vegetative data available at the Green River Resource Area.

Financing for all range improvements such as fences can come from appropriated funds and/or contributed funds. Documented cases of wildlife obstructions can come from reports by Bureau specialists and photographs. Changes can be made by the Bureau or the party who has the maintenance responsibility. All modification and construction standards are described in BLM Manual 1740.

190-10 Possible vegetation treatment methods are listed on page 172 of the Draft EIS, and include mechanical, biological, and chemical control, as well as prescribed fire. All treatment methods would be subject to the same planning, environmental review, and multiple use requirements, as well as project objectives and cost benefits. The stipulations of 35% sagebrush composition, 20% desirable grass composition, and 10 inches of precipitation are guidelines which may be modified on a site-specific basis following thorough analysis of the proposed treatment and objectives. Cooperation with the BLM would be necessary in all vegetation treatment projects involving the public lands. All vegetation treatment projects carried out on the public lands would be rested for two growing seasons from livestock grazing.

190-11 The definition that we use for wetlands can be found on page 628 in Volume 2 of the RMP Draft EIS. Riparian areas are also considered part of the transitional zone between

Comment Responses

aquatic areas and uplands. As such, in many places in this document or other documents you will see terminology such as "riparian/wetland areas" used when describing this transitional zone. BLM will manage these areas, whether called riparian or wetland, the same.

We will manage these areas by determining if they have the qualities and attributes necessary to function properly. In the case of stream and river systems this includes having sufficient vegetation of the type and quality necessary to dissipate stream energy associated with higher flows, filter sediment, improve recharge, etc. (see definition of Proper Functioning Condition in Glossary). This also ties in directly with what the desired plant community is for a particular riparian/wetland area. BLM will manage for these conditions on all wetlands and riparian areas found on public lands regardless of the water source or flow regime through time.

Management actions to repair, restore, or protect the values of any riparian area or wetland have to be determined site specifically through activity plans such as AMPs, HMPs, Special Management Areas, etc. In many, if not all, cases permittees play an integral part in the management of these areas in order to restore them to proper functioning condition.

190-12 Achievement of 75% of riparian habitats in "proper functioning condition" will go a long way toward meeting the objective of "healthy and productive condition." The definitions of "proper functioning condition" and "biological diversity" are found in the Glossary of the Final EIS. Before initiating wildlife enhancement projects or mitigating measures, the BLM collects baseline information on vegetation condition and species composition while the Wyoming Game and Fish Department provides data on populations. Also see response to comment 190-11.

190-13 A discussion on T&E species is provided in the Biological Assessment to the RMP Draft EIS (see Appendix 14 of the Final EIS). By regulation, state and federal agencies may not "jeopardize" listed or candidate plant or animal species or their habitat. No wildlife habitat has been listed as "Critical" in the Green River Resource Area. The localized habitat for special status or candidate plant species is given a measure of protection by regulating the intensity of authorized use.

Listing "sensitive" plant or animal species could impact permittees. However, the few impacts would be slight. Our efforts to protect Colorado River cutthroat trout have been in cooperation with permittees/landowners and the Wyoming Game and Fish Department. Our management objectives are to **prevent** species from having to be listed as threatened or endangered because there isn't the need.

The BLM usually supports the Wyoming Game and Fish Department when they propose stocking a reservoir with non-native species like brown trout or rainbows or if they wish to increase recreation opportunities by releasing chukar or pheasant. These introductions or reintroductions concern only public land.

190-14 For determination of the "desired plant community," see response to comment 173-4. Disturbed or altered habitats include lands physically disturbed, including pipelines, roads, and other disturbances, as well as any other practice that physically disturbs soil and/or vegetation. Reclamation procedures will vary and must be determined on a site-specific basis, taking into account the type and extent of the disturbance and the desired plant community based on multiple use objectives.

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diversity? What is being used for baseline data?

13 Farm Bureau is also concerned with some of the statements in the wildlife management section on page 184. The management actions for threatened, endangered, and sensitive plant and animal species appears to be overly protective. What is the process for listing "sensitive plant or animal species?" How will they be maintained or improved? How will this affect permit holders? Will it have an effect on recreational use and other interactions with the land? The same page states that the BLM is going to cooperate with the Wyoming Game and Fish for "preparation of studies for the introduction and re-introduction of native and non-native wildlife and fish species." Will the results from these studies and investigations be made public so that everyone is informed on what the BLM and Game and Fish are doing? Will the public be involved and have a say in the introduction and reintroduction of any native or non-native species? Will a taking impact analysis be done?

14 Page 184 also states, "Disturbed or altered habitat would be restored with the objective to attain desired native plant communities." What are "desired native plant communities?" We would like to see what kind of scoring is done to determine "desired" communities. How are disturbed or altered habitats ascertained? What processes are used to make these conclusions? If these habitats are disturbed or altered, what will be done to help these habitats attain a desirable situation? How will this effect the multiple-use objectives?

15 The wildlife management section also allocates some of its time to sage grouse and raptors (page 184). There are restrictions around the active sage grouse strutting grounds, and during seasonal times a restriction from leks to protect sage grouse nesting habitat. There are also protective restrictions for nesting raptors whether it be active or historic nesting sites. Will there be any control on the sage grouse and raptors? Will there be a point at which the strutting grounds and nesting can't extend? Will they have full right to the land wherever they decide to go? Who will manage them? Who determines what restrictions will be applied?

16 "Fences that are documented to be a problem to big game migration would be modified to meet BLM fence standards within 4 years of problem identification" (page 184). What kind of documented problems will be a justification for changes in fencing? How often must a situation occur before it is considered a problem? Will a one-time predicament constitute a problem? Will the BLM be cooperating with the permittee in modifying the fence to meet the standards? Who will be financing these modifications?

The special management areas section on page 185 states that as of now there is 440 acres designated as "Area of Critical

Comment Responses

190-15 When a land use applicant's activities are shown to impact sage grouse or raptor nesting, the BLM or the WGFD usually performs field studies to determine if the lek or nest is active. If no nesting activity is found, the activity is permitted. If the lek or nest is active, a seasonal restriction or stipulation becomes part of the permit. The BLM is the habitat manager and has the final decision on what, if any, restrictions should apply.

190-16 Most fences on public land which do not meet the 1974 BLM Fence Standards have been identified. Reports from BLM or state specialists, including photographs, show where wildlife cannot go through or are hung up by existing wire spacing. There is no set time frame on how often an occurrence must happen. If it has happened once, it will most likely happen again. The BLM will work with the permittees to correct situations like this or any other problems. Fence modifications will be financed from the BLM wildlife and range budgets and financing for reconstruction could be funded through Range Improvement (8100) funds or contributed funds.

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17 Environmental Concern" and there is potential for another 30,900 acres. If it is determined that they contain candidate plant or crucial candidate plant habitat they will be managed, protected and closed to numerous activities. These areas may also be "avoided and not occupied." If any new populations are identified they too would be added to ACEC. This does not appear to correspond with multiple-use objectives. This could mean closing the land and using it for a single use. How will this affect livestock and wildlife habitats? Is this even realistic? What other management technique will be explored prior to an ACEC being closed?

Alternative A in the EIS is very closely related to the preferred alternative. We have some of the same concerns under this alternative as we have for the preferred alternative. Most of the concerns we have are under the livestock and wildlife management areas. We still have the same questions involved with wetlands, riparian, and recreational areas, as we raised before.

18 Alternative B tends to lean more towards livestock use. Under the livestock grazing management section on page 254 it states, "the objective for livestock grazing management would be to improve forage production and ecological conditions for the benefit of livestock use primarily, and where possible for wildlife habitat, watershed and riparian areas." This alternative wants the livestock to receive the primary benefits. While the preferred alternative and alternative A tends to favor a multiple-use plan. A plan where livestock, wildlife habitat, watershed, and riparian areas all benefit. Alternative B also allows grazing on developed and semi-developed areas where the other three alternatives do not.

19 On page 254 of alternative B, in the livestock grazing management section, it states "existing forage reservations for wildlife and wild horses would be maintained." One of the most abusive effects on the range is caused by wild horses. Wild horse numbers should be reduced at this time to better match the resources available. There should be tighter restrictions on these wild herds so that the land and natural resources are protected.

20 Alternative B reduces the level of land use restrictions and provides for more intensive management. Alternative C appears to be opposite to B. Alternative C addresses resource management conflicts by increasing the level of restrictions on land uses and providing a more intensive management of noncommodity resources. Alternative C, does not follow the multiple-use objectives. Therefore, the plan should not be considered. The livestock grazing management section, in summary, states "if we can get rid of livestock we will." The alternative is so restrictive that it is contradictory to multiple-use objectives. Additionally, the restrictions within this alternative are so strict and impractical that they would have detrimental affects to the land. Overall, we strongly object to Alternative C. However, due to our concerns,

190-17 See response to comment 190-5. Livestock and wildlife species will not be affected by ACEC designation of Candidate plant species locations, unless they are identified as a threat to the Candidate plants, then the area would be closed to use. In addition, the management and protection of plants is a valid use of public lands and fits well into the concept of multiple use. Multiple use applies to activities occurring on the 3.7 million acres of public land in the Green River Resource Area. It does not apply to each public land acre.

190-18 See response to comment 94-2.

190-19 Appropriate Management Levels (AMLs) of wild horses in the planning area have been established by agreement between the Rock Springs Grazing Association (RSGA, a major land holder/lessee of deeded lands in the checkerboard area), the International Society for the Protection of Mustangs and Burros (ISPMB), and Wild Horse Yes! (WHY). These population levels have been established in accordance with available forage to support them. One feature of the plan is to elevate the level of monitoring within the wild horse program. This increased emphasis will allow improved horse management through the identification of distribution problems that may be causing localized impacts to the vegetative resource. Gathering of wild horses will then be tailored to correct any identified horse concentration related impacts. Also see response to comment 16-9.

190-20 Livestock grazing is and will continue to be a use of public lands. Alternatives in the RMP Draft EIS are presented to provide the reader with a range of alternatives to review.

there are a few points that we wish to specifically discuss.

21 Our first concern deals with page 298 of the EIS. It states, "existing rangeland monitoring would be initiated to determine the need for forage allocation adjustment." It is our belief that existing rangeland monitoring needs to be improved, they are not focused well. Forage samples need to be taken several times over a long period of time, and all factors must be included in determining forage quality. One factor that should be determined is weather. Mother nature has a lot of control on what happens to the land. If there is not adequate snow fall and rain, the forage may be poor that year. Second, wildlife and horses can be abusive to the land. A herd of elk can come in and do some excessive damage to the rangeland. It takes very close monitoring to know all things that happen to the land. Unless you are there--on the land, all the time--to see everything that is happening, it is hard to tell if livestock is causing the problems. There are some cases where the improved management should be with the wildlife not the livestock.

22 The management actions for wildlife management on page 320 caught us by surprise. "Habitat would be provided to accommodate increasing the Sublette antelope herd." The increase in this herd should not be considered, because "monitoring has not been completed or evaluated at this time to determine if there is available forage to support an increase" (page 499). At this time, the herd is "supported with available forage primarily because livestock numbers have been down (50 percent voluntary nonuse) due to livestock market fluctuations." What if livestock numbers increase? Then what will happen to the forage? We believe that they should take management actions by maintaining the already sizable herd.

23 There are numerous pages throughout the EIS which state, "construction of livestock water developments within crucial big game winter ranges could have adverse impacts to big game populations and habitat." The EIS also states that big game water developments would be closed to livestock, and that some livestock water developments would be closed to big game. What kind of studying and testing has been done on water developments? Will these really have that big of an impact on the land? Will competition between livestock and big game be a problem?

24 Farm Bureau is also concerned with the statements made about the AUM's that are not being used. Livestock managers should not be punished because of their voluntary non-use of the land. The market fluctuations may be one reason for the voluntary non-use, but there are also other reasons. As stated before, those who use and depend on the land are going to also try to protect the land because their livelihood depends on this land. Every year the forage is different, and it may not be able to hold the AUM's it is allowed. Livestock managers are aware of this and if the forage is

Comment Responses

190-21 You are correct, many factors influence range condition. Improved monitoring can result in better information. Standards and guidelines have been established for the type and method of monitoring to be conducted. Climatic data are gathered and analyzed with trend, actual use, and utilization.

190-22 The Wyoming Game and Fish Department estimates that the Sublette antelope population was 40,000 to 50,000 head for several years during the 1970s and again through the mid-1980s. The change in strategic plan objective was not an increase in existing numbers, but an adjustment for an estimate by the WGFD (based on harvest, hunter success, natality, mortality, and post-season counts on winter range).

The document will be reworded to state that the effect of the "increase" in objective numbers on habitat will be monitored. There is no guarantee of sufficient habitat for such numbers. Adjustments will be made if impacts occur.

190-23 The BLM has conducted no formal studies on competitive forage use within a given radius of water developments versus non-water-developed areas. General observations indicate that shrubs are browsed by cattle when there is water present to hold them in the area. Our browse transects also indicate a large portion of browse use during summer in water development areas is taken by livestock. The problem lies in constructing water developments in winter ranges and having livestock overutilize an area. Another problem could arise from wildlife in winter ranges. Wildlife that are supposed to leave an area may not if water is developed.

190-24 There is no discussion in the document about canceling approved non-use.

not there, it is not there. Therefore, the livestock numbers are decreased or they are taken off the rangeland sooner. Livestock owners watch and observe the range, they know the limits of the land. They should not be punished for non-use. These AUM's should not be taken away or given to wildlife.

We strongly believe that if there is a need for a plan and it is implemented, that it be one which follows the objectives of multiple use. We object to any plan that gives preference to one use.

Sincerely,
Safalee Bird

Safalee Bird, Research Associate
Wyoming Farm Bureau Federation

191 WYOMING STATE GRAZING BOARD

CENTRAL COMMITTEE
P.O. Box 1202 Lander, Wyoming 82520
(307) 332-2601

4/16/93

Renee Dana, Team Leader
Green River RMP POB 1869
Rock Springs, Wyo. 82902

Dear Ms. Dana,

On behalf of the Central Committee of the Wyoming State Grazing Boards, I would like to provide some comments on the Draft Green River RMP.

Our first comment is that we found the Document to be so huge as to preclude our effective review of the contents during the time provided, even with the time extension. Perhaps the size and time period for public review of these types of BLM Planning Documents is not under the direction of your office, but we request that BLM re-develop a planning process that would, 1) provide more opportunity for direct participation by those affected by the document, during the actual development of the document and 2) put a page limitation on the size of the RMP because none of us in the public arena can stop our existing work load for the time it would take to give a document of this size a proper review.

1

2

On page 5, it states that this RMP will supersede all existing plans and other general planning documents. We do not know from this statement which "existing" documents/plans are to be superseded by this RMP. Please both define the salient terms in this paragraph, and provide a list of the plans/documents superseded by this RMP.

3

The narrative at the bottom of page 8 states that uses and values of non-federal lands intermingled with the BLM lands covered by this RMP will be "taken into account". The narrative continues to state that the RMP decisions will "not pertain to the State and privately owned surface".

Our comment is that there is no way that decisions on the BLM can NOT have a significant impact on the intermingled State and private lands in the area covered by this RMP. The land ownerships are intermingled, often checkerboard in pattern. How can the BLM reasonably expect that the other ownerships will not be significantly affected by the Decisions in this RMP ??

Dedicated to the wise use of Wyoming's Section 3 grazing lands.

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4 Page 12-please specifically define the terms "surface disturbance", "other human-presence disturbance" and "other disruptive activities", as they are being used in this part of the RMP

5 While we understand the complex nature of social-economic evaluations on land mass areas of this size, we found this section of the RMP to be the most deficient of all the major areas of consideration. We counted a total of 7 pages out of the approximately 1000 plus pages of Draft plan devoted to social-economic considerations. Both the consultation sections of Section 8 of Public Law 95-514, the PRIA, and the consistency requirements in P.L. 94-579, Section 210 of the FLMPA, and 43 CFR 1610.3-2(e), require the BLM to do much more than has taken place to date with respect to meaningful evaluation of the economic and social impacts of the proposals in this RMP on the customs and cultures of local towns/communities/counties, and families.

6 The Draft RMP is full of proposals that are going to cost someone a lot of money should the proposal become a reality. For instance, the Draft states that existing roads/two track trails will need to be graveled prior to use by vehicles so as not to contribute to additional soil erosion. Has anyone in your office calculated how many miles of roads/two track trails this type of proposal would actually apply ?? Who do you expect to pay for the graveled ?? How can the BLM police this type of proposal ?? Are you not under some type of direction that states that BLM can't propose an action unless they can both monitor compliance and pay for the effect of the proposal ??

These few comments only start to demonstrate our concerns about the potential impact on our local economy, over time, of the proposals made by the BLM in this Draft RMP. But a complete text of our comments, page by page, would be a laborious task; one which we are not convinced would have a significant impact on the Final narrative printed by the BLM for this Resource Area.

Please keep us informed as to the progress on this RMP document. We will endeavor to continue to participate with our permittees on site specific planning and management proposals as they develop.

Dick Loper
Dick Loper

cc: WSGB

Comment Responses

191-1 There is more than adequate opportunity for direct public participation in the planning process. Document size is always a concern; however, most of our comments requested that we include additional information, thus increasing document size. See response to comment 190-1.

191-2 See response to comment 190-2.

191-3 See response to comment 33-1. The impacts on other agency-administered lands and private lands from proposed decisions are analyzed. BLM does not make decisions on these lands; management prescriptions apply only to public lands. Because the document is programmatic in nature, impacts to individuals cannot be determined at this level; however, these effects are evaluated in site specific analyses.

191-4 For the definitions of "surface disturbance," and "other human-presence disturbance," see the Glossary. "Other disruptive activities" refers to things such as noise, dust, and recreation use in crucial winter range.

191-5 Yes, not many pages in the RMP Draft EIS were devoted to socioeconomic evaluations. You are correct, socioeconomic considerations for the Resource Area are extremely complex. Please see the revised text in Chapter 3 of the RMP Final EIS and additional tables in Appendix 10.

Regarding meaningful evaluation of the economic and social impacts on the customs and cultures of local towns/communities/counties, and families in the Resource Area - it happens constantly. Through public meetings, open public dialogue, coordination meetings with various interest groups and political entities, BLM receives constant input regarding social and economic impacts to people.

Custom and culture of local towns, communities, counties, and families is almost impossible to define. If there is any one constant in Wyoming's history that affects custom and culture it is **change**. It is impossible to isolate one period of Wyoming history be it 10 years or 100 years and come up with a single, accurate definition of custom and culture. Economies change. World-wide economic events totally beyond the control of BLM can positively or negatively impact the trona industry overnight.

191-6 In many cases, the natural occurring material is suitable for the intended road use, especially if the use is casual and infrequent. An evaluation of the parent material and the intended road use will determine if graveled is necessary. Usually, this analysis is part of the engineering design of the road. We

Comment Responses

require that all proposed roads on BLM-administered lands be designed by a certified engineer with certification that the road was built as designed. Resource considerations such as the Wind River Mountains viewshed may require that roads be graveled and a dust suppressant applied. See responses to comments 27-24 and 35-9.

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Comments
on
the
GREEN RIVER RESOURCE AREA
RESOURCE MANAGEMENT PLAN
and
DRAFT ENVIRONMENTAL IMPACT STATEMENT

by

Garie Henry, Chairman
Wyoming Farm Bureau Natural and Environmental Resources Committee

February, 16, 1993

I am Garie Henry, the Wyoming Farm Bureau Natural and Environmental Resources Committee Chairman. Wyoming Farm Bureau is the largest voluntary agriculture organization in the State of Wyoming. We have a diversified agricultural membership, in that our membership includes persons involved in every aspect of the industry. For this reason we feel more than qualified to comment in behalf of our members which will be affected in this plan.

1 I thank you for the opportunity to comment on this plan for the Green River Resource Area. I would like to say, I agree fully with the statement on page 17 of volume 1, under title "ALTERNATIVES AND MANAGEMENT OPTIONS CONSIDERED BUT ELIMINATED FROM DETAILED ANALYSIS", and I quote, "The following alternatives and management options were considered as possible methods of resolving the planning issues and answering the planning questions, but were eliminated from detailed study because they were unreasonable or *not impractical* due to technical, legal, or policy factors." I think this statement is symbolic of this whole study, and most of the other environmental impact studies performed in the Western United States. As I see the preferred alternative it could not have fit into the eliminated options because IT IS VERY IMPRACTICAL.

2 Having stated my true feelings of the plan in its entirety, I will now try to make some practical sense out of it. Under air quality management in the preferred alternative you talk about the emissions which may add to ACID RAIN. Do you realize that on alkaline soils like we have in south western Wyoming, acid rain neutralizes the alkalinity of the soils thereby causing a more favorable environment for good strains of grasses to take hold and be more productive. I am rather in favor of having just a bit more acid rain fall on my meadows that produce the hay which

192-1 The text has been corrected to clarify the intent.

192-2 Thank you for your comment.

192

I feed to my cows in the winter.

- 3 I question if the use of gravel would cut down on the dust, because, as the gravel is beat off of the roads, by the idiot drivers, federal employees included, that drive on these roads, it tends to stir up the road base into a fine powder which is airborne practically immediately. Put an enforceable speed limit on the roads and then enforce it. This will slow traffic and cut down on the amount of dust and air pollution.
- 4 How rare does the candidate plant species have to be to qualify as such? I would suggest that if a plant species is found more than once in this study area it is far from endangered or even threatened. Therefore I think the portion which addresses candidate plant species could be stricken from the record. With the exception that the plant species in question is proven to be a very beneficial plant, then its existence be cultivated.
- 5 Commercial timber harvest of 500,000 board feet per year is very impractical, given the fact of the minimum price set by this document and that "Priority harvest would be given to mature, decadent, and diseased trees."
- 6 Lands and realty management could use additional language to make it practical. I would propose the last sentence on page 28 and in other applicable areas in the document the following wording be added, "The preferred method of disposal would be land exchanges of equal value."
- 7 When you start withdrawing lands for protection of important resource values, I would think it to be in the best interests of all concerned that there be public hearings held with any and all interested publics being notified and given an equal opportunity to comment. Why haven't the BLM personnel come to an understanding of agriculture's benefits in the reduction of salinity and sedimentation. I know you will site the Eden Valley as your example of ag's contribution to the contamination of the Big Sandy, well I will point you right back at "Bone Draw", salt springs, and black water, which you should be all too familiar with.
- 8 Why does the BLM need any more access to public land than it already has? With the checkerboarding of land ownership there is hardly any public land which has absolutely no access, I would be truly surprised if there is as much as the 300 acres you claim.
- 9 Is the difference between the recognized active preference

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grazing use and the anticipated actual use attributed to the lack of interest in grazing the land in the study area or can it be that the livestock owners are merely trying to take care of the productivity of the land? Also, would any upward trend in the range conditions which might cause an increase in resource uses be awarded to the permittees or would the wild horses and wildlife be let to increase indiscriminately? One point I would like to commend BLM on right here is the admittance that livestock is a resource and wildlife is a use and vice-versa.

- 10 But why is recreation not classified as one of the multiple uses?

- 11 Again I find that agriculture, in the form of "authorized grazing preference" is required to take a back seat to wildlife, wild horses, and recreational uses. I suspect that all productive uses of this area is going to be subject to the non-productive uses. I must point out that non-productive uses require a much higher subsidy for maintenance of their programs than do productive uses.

I could go on and on, but due to time and labor constraints, I cannot afford to produce as voluminous document as can the BLM. After all I am only allowed 45 days and I am only one unpaid person.

Thank you

Garie Henry

Comment Responses

192-3 See response to comment 27-24.

192-4 In general, a species is considered rare when it is in such small numbers throughout its range that its survival may be at risk. The likelihood of a species' survival depends on several factors, including the range of the species, total population size, and threats to its existence. The U.S. Fish and Wildlife Service uses a strict set of criteria to determine if a species should be designated as a Candidate for listing as Threatened or Endangered. The BLM is mandated by federal laws and regulations to protect Candidate species, and to ensure that actions authorized on public lands do not contribute to the need to list them as Threatened or Endangered.

192-5 Thank you for your comment.

192-6 By federal regulation, no exchange shall be deemed suitable if it is not an equal value exchange. An equalization money payment shall not exceed 25% of the value of the public land and interests being conveyed. The money payment shall be reduced to as small an amount as possible.

192-7 See response to comment 11-3.

192-8 See response to comment 171-13.

192-9 A permittee may choose several reasons when applying for non-use. These reasons range from livestock market conditions to conservation of resources. Forage increases would be allocated on a case-by-case basis once a site specific analysis is evaluated.

192-10 Recreation should be listed as one of the multiple uses on public lands.

192-11 Thank you for your comment.

193



Big Sandy Conservation District
P. O. Box 202 - Farson, Wyoming 82932 - (307) 273-5531

March 1, 1993

Renée' Dana, Team Leader
Green River RMP
Bureau of Land Management
P.O. Box 1869
Rock Springs, WY 82902-1869

The Supervisors of Big Sandy Conservation District wishes to compliment you on your work on the Green River RMP, your use of supporting data and objectivity are clearly visible. Meeting the resource needs through multiple use while protecting possible impacted private property rights coincides with our objectives in total resource conservation.

We do feel that the economic data base used should be carefully reviewed before final publication.

Thank you for the opportunity to comment on this very important work.

Sincerely,

JoAnn Zakotnik

JoAnn Zakotnik, Chairman
Big Sandy Conservation District Board

JZ/jm

CONSERVATION · DEVELOPMENT · SELF-GOVERNMENT

Comment Responses

193-1 Thank you for your comment. The economic data has been reviewed. Please see the revised text in Chapter 3 of the Final EIS and additional tables in Appendix 10.

194

Leonard Hay

April 16, 1993

Mr. William W. LeBarron
B.L.M. Green River Resource Area
1993 Dewar Drive
Rock Springs, Wyoming 82901

Dear Mr. LeBarron:

I would like to make the following comments regarding the proposed Green River Area Resource Management Plan and Draft Environmental Impact Statement:

I feel it is wrong for a governmental agency to produce this document with very little or no input from the private property owners. Much of this private land is commingled with government land, and your decisions effect uses and values of these private lands.

Many of the proposals in this plan cannot be carried out without the private land owners' cooperation. I hope, before the final plan is adopted by the B.L.M., these situations can be fully discussed with the private land owners.

This same situation exists on game winter range areas, no-development mineral areas, no-surface occupancy areas, visual resource areas and others. While I feel that the non-income producing uses are important, the productive uses must be given more consideration in any long-range plan.

I have a few questions I feel are important, but I will discuss them with you at a later date.

Sincerely,

Leonard Hay
Leonard Hay

194-1 See response to comment 190-1. Public lands are managed for multiple use and we have no Congressional directives that direct us to manage for the most productive uses. This plan was developed to provide for orderly development of resources, while maintaining sustainable productivity for future generations.

Renee Dana
Team Leader
Box 1869
Rock Springs, Wyoming 82902

195

Dear Renee:

These comments on the Draft Resource Management Plan are written as a property owner and frequent recreation user of the upper Sweetwater River area. I will address my comments to the various resources as they are organized in chapters 2 and 3, even though many of the resources are inter-related.

CULTURAL (and RECREATION)

The historic and prehistoric resources in this area are some of the most unique and valuable in the resource area. Evidence of the original trails still exists in a setting where the visitor can experience the sense of the country largely as it was then the native Americans and pioneers were here. Critical to this setting is the largely undeveloped nature of the area. One experiences the authenticity of the setting by having to drive 20 to 30 miles per hour on a dirt road sensing the remoteness, distance and space, and hardship felt by those who came before. The setting and experience is not the same on Hwy. 191 or the South Pass Highway where one goes through the same country with much more convenience and speed.

- 1 I would like to see a minimum of developments and improvements. I would like to see roads improved only by the addition of surfacing and minimal drainage necessary for safety and resource protection - not convenience. I would like to see very little development of facilities with all developments including roads, camping facilities, and interpretive facilities being subtle and not intruding on the setting. Developed campgrounds, improved roads, faster and easier travel, and sophisticated signing all act to change the setting bringing in the notion of development and civilization. Changes of this nature puts our heritage on display as one looking from a removed position rather than allowing one to experience the historical setting by becoming a part of it. In one sense the area as a whole, or large parts of it are the cultural site, not just specific pieces such as the trails, stage stops, or prehistoric sites identified and removed from the setting.

The above discussion is largely generalized over the resource area because that is the way the heritage resource exists. Most of the following comments apply to the area roughly between Squaw Creek and where the Sweetwater River enters T.28N., and northeast of the Lander Cutoff Road.

FIRE MANAGEMENT

- 2 In the desert, let it burn, except to protect life and property. In the long run burning is beneficial, even when it burns a little hotter than preferred

and takes a little longer to return to the desired species. In timber areas the highest values are soil and water, recreation, and visual. Here fire should be suppressed using light on the land techniques with full restoration of suppression activities such as obliteration of any roads or cat lines constructed (not light on the land techniques). I have no objection to tracked vehicles. It is the blade, not the tracks or wheels that do the damage. In aspen stands let it burn as much as possible.

Use prescribed fire to convert sage to grass-forbs, and to expand aspen stands. Where cooperative programs exist with range permittees continue them even though you may have already treated your quota with a given permittee. The benefits accrue to the wildlife and general public as well as to the permittee so if you have someone who wants to burn more, go ahead rather than doing nothing with other permittees who do not want to participate at all. No one benefits from that.

FOREST (TIMBER)(VEGETATION)

- 3 Again, the major values are soil and water, wildlife, recreation, and visual. The presence of commercially valuable timber is doubtful. I favor a compromise between the Preferred and Alternative C. The prescription for most of the adjacent National Forest lands is a wildlife prescription which allows vegetative manipulation only for the purpose of benefitting wildlife, and it is not part of an Annual Sale Quota. I feel there should be no annual harvest quota here either, and that management should be consistent with adjacent National Forest lands. The majority of products removed would be through personal use type permits to meet local demand. Occasional commercial sales of 1-200,000 MBF would occur if they preserved the character of the area and left no effect other than the cut itself. Roads developed for the sale would be obliterated within a couple of years of the sale so no historic use of these roads becomes established. This conflicts with the need for access for regeneration. My recommendation is to use cutting practices where the probability of successful natural regeneration is very high, such as 2 to 3 acre patch cuts and overstory removal-sanitation type cuts. I have seen local loggers do an excellent job of removing dead from a stand with very little damage to the residual, and they could do the same with a live component such as the overmature. Increased access provided by timber sale roads such as those built for past sales in the area (Blucher Creek Sale) is undesirable.

GRAZING

Grazing is fine. Protect and improve riparian areas. I recommend salt be placed away from public use areas. Burn sagebrush.

OHV MANAGEMENT

- 4 I agree with allowing OHV's to use existing roads and trails with no off-road use except as you allow for game retrieval (not hunting), etc. I feel there are too many roads and would like to see the road density reduced. Some recommendations for elimination include:

195

Comment Responses

195-1 Thank you for your comments. Issues such as signing will be covered more specifically in site specific Recreation Management Plans and Cultural Resource Management Plans. In general though, while the BLM agrees that signing can be overdone, signing is a means of demonstrating management presence and preventing to some degree vandalism and other adverse effects. Signing is also necessary in many cases to protect visitor health and safety. Site specific management plans will take natural setting into consideration, and facilities will be as unobtrusive as possible.

195-2 Current policy in wildfire is limited to three methods of suppression. "Let It Burn" can only occur under a fire management plan. In each alternative, areas are identified with prescriptions in an activity plan following the implementation of the RMP.

195-3 Forests are a major value also. All the forests would be managed with consideration and stipulations to protect and or benefit other resources such as wildlife. There is no sale quota listed, all that is listed is a sustained yield.

Logging roads are obliterated if there is no demand for use by other activities such as recreation. No historic road use has ever been established. Through site specific environmental review and public input we identify existing roads that may be closed.

Two- to three-acre patch cuts would not restrain the spread of dwarf mistletoe. When left to nature, forests are not cleared and regenerated in two to three acre patches.

195-4 An Off-Road Vehicle (ORV) implementation plan will be developed and implemented for the Green River Resource Area after finalization of the RMP. Resource concerns and the needs of the public will be major factors developing this plan.

5

T30N, R103W
- The road in the bottom along the SW side of Blucher Creek in S. 22 because of road density and riparian damage.

- The road up Tie Creek in S. 22 and 27 to reduce road density and improve security for game.

- The road in the NE corner of S. 23 that goes north onto the forest and curves around east and comes back south onto BLM along the section line between sections 23 and 24. The main road along the western edge of section 24 turning west through the center of section 23 toward Tie Creek is OK. Reduce road density and increase game security.

T30N, R102W

- Any road that goes down into the Sweetwater Canyon between the two campgrounds, especially the one that goes down and crosses the river in the center of section 30. The canyon should be kept semi-primitive non-motorized, and this road is eroding.

T29N, R102W

- The road in the NW 1/4 of section 4 that goes north from the Clear Creek road onto the forest. It is eroding badly, and to reduce road density and improve game security.

- North 1/2 of section 8 that goes down to the river near the confluence with the Little Sweetwater. The road is eroding, and I would like to see the entire canyon semi-primitive non-motorized (see Wild and Scenic). Also the public is abusing it - it is a mess. There is an old refrigerator and literally nearly a full pickup load of cans and bottles there.

- The road to the river in the south part of section 16. Erosion and SPNM.

RECREATION

- 6 This resource, in combination with the wildlife, scenic, and cultural resources as a composite, is of primary importance in terms of long term surface management. The undeveloped, empty character of the area as discussed in CULTURAL is the unique value. This needs to be protected by managing the area as semi-primitive motorized and non-motorized, particularly the development level and density of the transportation system. Upgraded roads allowing easier travel and faster speeds would take away from the uniqueness. If someone wants to go 60 MPH through this kind of country they can do it right now on the highways.

The semi-primitive settings themselves are the resource at risk. Development is a one way process and those areas at the undeveloped end of the spectrum are becoming fewer and fewer. This area has high undeveloped areas providing solitude that need to be protected. People enjoy these settings but, by definition, not in large numbers nor with highly developed facilities. This is an interesting and contradictory management problem.

- 7 Interpretation of the cultural heritage could be done in a very low key manner, with minimal and subtle on-site signing allowing people to locate themselves

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(numbers or place names). Most of the information could be provided with maps, brochures, and video and sound tapes. Large signs and interpretive site developments intrude on the setting.

- 8 Significant development at the semi-developed campsites couple with higher levels of use will probably displace present users without providing them with an alternative place to go. Even with better facilities the sites are small and can become overcrowded with a relatively small number of parties. Developments need to stay small enough that the setting remains the dominant feature with the improvements subordinate, rather than developing the campgrounds to the extent that they become the dominant feature. Also there are two commercial fall outfitters in the area, one of whom also operates in the summer. The viability of their operation depends on a high degree of naturalness and low numbers of people. This kind of recreation based economy is more important and has more potential than trying to develop much of an economic contribution out of the meager timber resource.

The Continental Divide National Scenic Trail should follow the actual continental divide out into the desert east of Little Sandy Creek and follow it on along the south side of the Sweetwater River. This fits well with Wild and Scenic designation of the river.

The Wyoming Continental Divide Snowmobile Trail is fine.

I agree with keeping 1.5 miles of the Big Sandy River primitive.

While the Lander Cutoff road would probably make a good back country byway, the influence of designation, development, and increased traffic in light of above discussions needs to be looked at closely. It is probably OK if it is not developed to a higher standard and minimal safety improvements are made (put surfacing on the portions that are clay). Interpretive information can tell people the road is dirt and slow speed but is passable to sedans, and is being managed this way to retain the undeveloped nature of the setting. I would not like to see visitor use promoted with the idea of greatly increasing use, but would rather enhance the visit of those folks who might discover the area on their own and then visit it.

VEGETATION MANAGEMENT

Burn sagebrush and aspen.

VISUAL RESOURCE

- 9 Get rid of those ugly facilities at Fontenelle - give a good landscape architect an opportunity to do a really nice job of designing facilities that fit.

Back to the Sweetwater area, keep any developments subordinate to the landscape and setting.

195

Comment Responses

195-5 Thank you for this information.

195-6 You are correct - balancing the needs of a growing recreating public with the need for semi-primitive settings is a contradictory management problem. One pattern we've observed over the years is that sometimes people "discover" a nice semi-primitive area and return year after year and bring their friends - who also return and bring their friends. The next thing we know is that what used to be a relatively uncrowded area is now jammed with people with the expected impacts to sanitation and the environment. There is no easy solution to this problem as it seems to be human nature. Our planning for the Sweetwater Campgrounds is to try to strike a balance using the Recreation Opportunity Spectrum (ROS) system to design low-impact facilities that do not infringe on the natural setting while at the same time control the ever increasing human impact. See response to comment 195-4.

195-7 Your suggestion to use low-key means of cultural interpretation is good. We have been trying to use this approach for the past few years, even correcting areas where our interpretation did intrude on the setting. We appreciate help and suggestions regarding interpretation. See response to comment 195-1.

195-8 Thank you for your comment.

195-9 Thank you for your comment. See response to comment 195-6.

WILDLIFE

195

10 I am opposed to chemical predator control. I have a kid and may some day have a dog, and feel that these devices are a hazard to their well being.

11 One of the native wildlife species I would like most to see re-introduced is the buffalo. I realize this would be a controversial project, particularly with the cattlemen. For this reason the Game and Fish Department is probably not very interested in taking it on, and probably not the BLM either.

I would like to see the establishment of a free-roaming herd with the ultimate goal of a herd size and vigor such that they could be hunted. Both the hunting and just viewing would be a tourist attraction and possibly someone would take advantage of the business opportunity to guide people to see them. The greatest value to me however is the re-establishment of them as an element of the cultural heritage of the area. The buffalo is the Wyoming state animal - the state should have at least one real live herd other than those protected and on display in the parks. It is my understanding that a feasibility study was done a few years ago by a BLM biologist. The project was found to be feasible in the Red Desert with grazing capacity being made available through adjustments to cattle and wild horse numbers, and through existing excess capacity.

WILD AND SCENIC RIVERS

12 I recommend classification of all of the portions of Sweetwater River with as many of them as possible being classified Wild, especially segments 2 and 3 and the other longer segments over 1 mile in length. In some places this would involve closing a couple of roads (which should be closed anyway), and removing some fences to the rim which has already occurred in some places. In it's desert setting, the river canyon is very unique. Though my comments here are relatively brief, I strongly recommend classification.

Thanks for the opportunity to comment.

Dave Mohl
Dave Mohl

Renee Dana
Team Leader
Box 1869
Rock Springs, Wyoming 82902

195

Dear Renee:

I have a couple of further comments on the Green River RA RMP which can be added to my previous letter.

13 **LIVESTOCK** While I think grazing is fine, I want to see operations carried out according to the permits, especially stock numbers, on and off dates, and required maintenance. Some of the fences in the southern portion of the Sweetwater area are not being maintained and stock is getting into adjacent allotments causing excessive grazing.

14 **WILD AND SCENIC RIVERS** I would like to see State of Wyoming lands contiguous with suitable BLM lands incorporated into the system. A lot of coordination work would have to be done with the state since I am sure they have not even thought about it, but these additions would greatly enhance the value of the river. This would add:

- approximately 1 mile in Section 16, T29N, R102W to Segment 3 making it about 3.8 miles long. This would involve closing a road from the east and one from the west. These roads are eroding and should be closed anyway.
- approximately 1/2 mile in Sections 27 and 34, T29N, R102W between Segments 4 and 5 to make a single segment about 1.7 miles long.

Again, this canyon and it's setting are very unique in terms of geology, scenery, and cultural heritage. Even though it is segmented, the uses of these other segments are largely consistent with W & S classification.

Dave Mohl
Dave Mohl

Comment Responses

195-10 See response to comment 94-15.

195-11 The BLM has been approached numerous times in the past 20 years about allowing bison to reoccupy their native habitat on public land. The primary issue in the past has been the fact that the animals would be on both public and private lands in the checkerboard. Reintroducing bison would have to be a cooperative effort.

195-12 Thank you for your comment.

195-13 Use supervision of permits is conducted in the Resource Area. This includes numbers of livestock, on and off dates, and maintenance of range improvements. Infractions of regulations, when discovered, are followed by administrative actions such as trespass.

195-14 Thank you for your comment. During initial coordination meetings with the State of Wyoming regarding Wild and Scenic River analysis, serious concerns were raised by the State that designation of rivers could preclude future development options or other land and water uses even if there were no plans for development or uses at present. For those reasons and the fact that the BLM planning process applies only to BLM-administered lands, the analysis was limited to only those portions of the Sweetwater River flowing through BLM-administered lands.

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Randall R. Taylor

03 February 1993

Bureau of Land Management
Rock Springs District
P.O. Box 1869
Rock Springs, WY 82902

Attention: Renee Dana, Team Leader

Subject: Comments on Green River Resource Area Resource
Management Plan and Draft EIS

Dear Bureau of Land Management Planning Team Members:

SUMMARY

- 1) The explosive growth of off road land vehicle use requires a corresponding degree of alertness and attentiveness in management of our public lands. Now is a pivotal time that requires perspective and vision in preserving resource values for the future. Please provide management that will reflect the needed protection to the resources from the revolution that is taking place in the use of off road vehicles, including over snow vehicles.

The policy of "limiting vehicular travel to existing roads and trails" simply does not work for reasons that include the following:

- 2 a) There are already such an extensive network of roads and trails built up and growing every year, that this policy provides little protection,
- b) The policy is not enforceable. A common sight in such a designated area is to find people on vehicles making their own paths. What is an existing trail? There is some kind of a trail everywhere. If there are vehicle roads and trails into an area, there is almost always someone trying to push the trails back a little further. In a number of instances during the past year I have seen new vehicle tracks right up the middle of damp, wetland type meadows - one of the most fragile of environments.

The proliferation of vehicles with increasing capacities to traverse just about any kind of terrain must be met with corresponding regulations for

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protection.

In our vast public lands the BLM is unable to inventory all existing roads and trails. If someone starts a new road it is frequently hard to prove that this wasn't an existing road or trail, even if BLM personnel are able to actually see the questionable use. THIS PRACTICE TAKES PLACE CONTINUALLY in areas limited to existing roads and trails.

For these reasons the vast majority of BLM land needs to be protected from the geometric growth in off road motor vehicles by a vehicle use policy of "Designated Roads and Trails" only. These roads need to be well defined by maps and signing, and all other roads and trails need to be defined as off limits by signing and physical barriers. These barriers might include gates (where there are many fences on BLM administered land) that limit to foot traffic only.

- 3 Better public information and stiffer penalties are needed for enforcement of any vehicle use restrictions. Over snow vehicle users are often times unaware of any restrictions, and ORV users tend to not want to know or to not give any heed.
- 4 An important area that I do not see addressed in the EIS is the evaluation of existing roads and trails for closure to vehicular use. With the wide proliferation in roads that has occurred on BLM lands I see this as an important need that should be part of the study.
- 5 2) While I am a great supporter of public grazing, yet it is easy to see that the riparian areas need to be better protected, and a program of wildlife sensitive fence building and replacement is an area of critical need.
- 6 One of the best ways to protect the riparian areas is a little more cowboying from horseback. Increased riding and herding can keep livestock dispersed and pushed back off of the creek bottoms where they tend to congregate. There is a trend to pickup type cowboying, and leaving cattle unattended for extensive periods.
- 7 I am opposed to the elimination of livestock driveway corridors. Every effort should be made to preserve the ability, for those willing to work at it, for the traditional low cash cost livestock operations, where livestock are herded and grazed rather than trucked and fed. This protects families in the industry, and it protects a western heritage.

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Comment Responses

196-1 Management of ORVs is in the design of the document. Individual transportation plans will provide more site specific guidance in the future. Also see response to comment 195-4.

196-2 See response to comment 195-4.

196-3 We agree that educating the public is essential to gain compliance for Off-Road Vehicle use and other BLM programs. We currently provide presence and information to the public during holiday weekends and hunting season to gain visitor compliance. More of this work is needed, and BLM will continue to improve on this visitor service program.

196-4 An Off-Road Vehicle (ORV) implementation plan will be developed after the EIS is finalized. This designation process will evaluate the planning area's road network system. Resource concerns and the needs of the public will be major factors in developing this plan.

196-5 Thank you for your comment.

196-6 Herding of livestock is encouraged to all permittees. Many good results have occurred through this method.

196-7 There are administrative means to allowing trailing of livestock from one point to another. These old livestock driveways in the Green River Resource Area were set up in the early 1900s to allow ranchers to trail their livestock to a rail head. This situation no longer exists in the Resource Area.

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- 8) 3) Current wild horse controls just don't work for anyone. Horses are hard on the range, and they're out there 12 months a year. I love to see some wild horses, but there must be some management just as with domestic livestock, and wildlife. The current wild horse roundups have not been effective for population control, and are simply much too expensive - they are a waste of public money.

- 9) There needs to be a season and a permit system with pertinent rules for allowing public taking of wild horses by hunting or capture.

DETAILED REVIEW OF DRAFT EIS

-FOREST RESOURCE MANAGEMENT

I fully support a no logging 100' buffer zone along streams and standing water. The benefits far out way the minimal commercial timber value.

- 10) Logging roads should be minimized, areas of small logging operations should utilize draft horses rather than track type tractors to minimize road building. All logging roads should be closed and rehabilitated after the logging operations.

-LIVESTOCK GRAZING MANAGEMENT

- 11) Water sources need to be developed for both wildlife and livestock uses. This is an area where could management practices can increase the value of the grazing resources and better utilize the public domain.

Existing fencing needs to be reviewed for need and for compatibility with wildlife and wild horses. Old fences that are no longer functional need to be removed to eliminate the hazards to animals of loose wire strung over the land without purpose.

-MINERALS MANAGEMENT

- 12) WSAs need to be closed to mineral leasing.

- 13) We should move slow on new coal leases. In this area I favor Alternative C where 47,000 acres within the Coal Development Potential Area would be open to further consideration for coal

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leasing and development with appropriate and necessary conditions.

- 14) I am in favor of active oil and gas leasing, but in the past our public lands have often been used as sacrificial areas for this activity. Therefore I support many aspects of Alternative C in this regard such as closing 398,570 acres to leasing, and restricting 2,403,630 acres to seasonal use to protect wildlife.

Big game crucial winter ranges (about 276,00 acres) should be closed to further consideration for Federal coal leasing and development (Alternative C).

The greater Cooper Ridge and Elk Butte areas should be closed to further consideration for Federal coal leasing and development (Alternative C).

Grouse nesting areas and active grouse leks, and the area within a 1/4 mile radius of active leks should be closed to further consideration for Federal coal leasing and development (Alternative C), unless mitigating measures will more than compensate for lost habitat.

- 15) Many of the necessary mineral development roads should only be open to authorized personnel, and for business activities only.

-ORV MANAGEMENT

For the Killpecker Sand Dunes area I support Alternative B, which allows for 5,500 acres to remain open to ORV travel, and no new ORV open areas would be established.

- 16) For reasons set forth in the SUMMARY it is necessary to establish a vehicular travel policy throughout the remainder of the District to restrict travel to designated roads and trails only. The existing roads and trails policy simply does not work.

Snowmobiles should generally follow this same travel prescription, except in the important areas of big game winter habitat, where over snow motor vehicle travel should be prohibited. This would cover large portions of the District, and is an area that greatly needs to be addressed.

- 17) I support Alternative C for the closure of 111,590 acres to ORV travel to protect other resource values.

- 18) Not limited to ORV use, there should be a separate study within

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Comment Responses

196-8 Wild horses are managed within the Resource Area. Gathering of excess wild horses is the only tool presently legal and available for controlling wild horse populations. Within the planning area, wild horses have and are being maintained at management levels (see responses to comments 10-18, 16-9, and 190-19).

196-9 The Green River Resource Area presently contains four established Herd Management Areas supporting in excess of 2,000 wild horses. The management goal is a population of no more than 1,600 horses. This number of horses does represent a viable herd. We manage horses on over 2 million acres of public land affording ample opportunity for public viewing. Commercial use of the herds such as you suggest with guiding enterprises could be accommodated but are a private business decision, the use of which, to this point is not being made. Hunting or privately capturing wild horses is prohibited by law.

196-10 Timber sales are structured with as few roads as possible and all roads that are not specified for other uses are closed. See response to comment 195-3.

Horses are limited in the length of yarding distance (about 300 feet), so in some cases there may need to be more roads. In the right situations, horses work well, though there are not many horse loggers available.

196-11 Water developments are being constructed for both livestock and wildlife. Existing fences are being reviewed for need and compatibility to wildlife and wild horses.

196-12 WSAs are currently closed to oil and gas leasing. No new mineral leases will be granted for WSAs. Existing "grandfathered" mineral leases have to be honored. "Grandfathered" use means the use clearly must have been taking place on the lands as of the date of the signing of the Federal Land Policy and Management Act (FLPMA) on October 21, 1976.

196-13 A proposal or mine plan is subject to review by both Federal and State agencies; many years may pass between the receipt of an initial application and the actual establishment of a new mine. Any new mine plan would be subject to an EIS process, which requires public comment and input.

196-14 See response to comment 94-2.

196-15 Thank you for your comment.

196-16 See response to comment 196-4.

196-17 Thank you for your comment.

196-18 See response to comment 196-4.

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the EIS for the closure of existing roads and trails to all types of vehicular use. These closures need to be more than just a designation on a map. They need to include signing, physical barriers, reasonable levels of enforcement, and penalties that serve as true deterrents including loss of privileges on federal lands.

-WILD HORSE MANAGEMENT

- 19 Greater population control is needed as set forth in the SUMMARY; we also need to refrain from preserving something that was artificially created, which is a breed of low quality horses.

The original Spanish and Indian horses that served as the source stock for many of our current wild horses were high quality, well bred magnificent horses; they had to be worth hauling across the ocean when freight space was a premium. In subsequent years many inferior strains have developed; we are now preserving this degradation. The herds need to be culled for quality, and in some cases provided with opportunities for better quality breeding through the cross introduction of either wild or domestic stock. The herds need management.

-WILDLIFE MANAGEMENT

- 20 Habitat improvements are needed in the form of minimizing risks to wildlife particularly along migration routes, reseeding to provide valuable shrubs and browse, protecting forest cover particularly aspen stands, developing water sources to provide better utilization of the range, and minimizing stress from motorized vehicles. These important items need to be better addressed in the EIS and in the field.

-SPECIAL MANAGEMENT AREAS

- 21 ACECs should be closed to ORV and over snow vehicle travel, and the use of fire suppression vehicles should be consistent with these designations. Sometimes fire suppression activities can do far more damage than the fires.
- 22 The Greater Sand Dunes ACEC can handle properly managed livestock use; I support this continuation. I also support the closure of the Western Portion, 25,250 acres, to vehicular use.

Oregon Buttes ACEC: I support the Preferred Alternative of

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closing the area to surface disturbing activities ; mineral sales; and off-road vehicle use.

Pine Springs ACEC: I support the closure to ORV travel.

Red Desert Watershed Area: I support Alternative C for the closure of 46,000 acres to surface disturbing activities.

- 23 Steamboat Mountain Area: Contrary to the Preferred Alternative this area needs to maintain the current practice of closure to coal leasing and development. It should also be closed to mineral sales, until or unless a mitigating plan with a high degree of benefits can be developed on a region wide basis.

This area should be off limits to over snow vehicles to protect wildlife.

- 24 Currant Creek: Needs to remain closed to surface disturbing activities, and the travel restrictions to designated roads need to be enforced and publicized.

- 25 Red Creek: Alternative C, 55,880 acres, need to be protected from surface disturbance, leasing, or any vehicular travel except for the main county road through Richards Gap and the Red Creek Ranch Road. Limiting travel to trails just doesn't work, and isn't warranted in this area.

- 26 White Mtn. Petroglyphs ACEC: I support the Preferred Alternative of closing the entire area to off-road vehicular travel (this includes over snow).

-WILD AND SCENIC RIVERS

I support the Sweetwater River proposed designation, and the evaluation of other waterways for possible inclusion.

-ONE FINAL AREA

Please excuse the length of this letter. I have tried to briefly address a big and important subject. Thank you for your careful consideration of my comments. One final area I would like to discuss is in the northern end of the district and likely has many things in common with other areas. It is the area east of the Sweetwater river and north of Hwy 28.

- 27 The riparian areas in this region get beat into dust each year.

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Comment Responses

196-19 Gathered horses are assessed for quality based upon a number of factors related to desirability. These factors may include age, coloration, sex, and conformation among other objective and subjective criteria. A definition of quality, in relation to wild horses, that would satisfy all opinions does not exist. The horses are being managed from both a habitat/population balance standpoint and to provide a diversity in phenotypes and genotypes. The intentional introduction of domestic horses into the wild herds, such as you suggest, is not consistent with either policy or law.

196-20 These actions are considered site specifically during activity planning.

196-21 ACECs have various vehicle designations. Closures were made if the relevant and important values would be impacted by vehicle use. Some ACECs are limited to designated or existing roads if vehicle travel on these routes would not impair the relevant and important values.

Normal wildfire suppression activities are governed by three alternatives (control, contain, confine) which balance the resource damage by suppression activities and resource values. Each wildfire is assigned a resource advisor to identify potential impact of both fire and suppression activities on the affected resources. Current policy and suppression practices account for this concern.

196-22 Thank you for your comment.

196-23 A seasonal closure is currently in effect for portions of Steamboat Mountain. Steamboat Mountain is closed to mineral material sales under the Preferred Alternative, and to strip mining also. If the BLM receives a proposal for an underground mine, it would be considered and subjected to review by State and Federal agencies. Also see response to comment 27-17.

196-24 Thank you for your comment. We are going to protect the upper reaches of Currant Creek; however, we don't have any justification to restrict all surface disturbing activities on all of Currant Creek.

196-25 See response to comment 94-5.

196-26 Thank you for your comment.

196-27 BLM has worked closely with landowners along the southern Wind River Front for many years - with a major focus being to preserve riparian areas on both public and private lands. Monitoring of habitat is presently being conducted in the Resource Area. Adjustments to grazing systems or numbers of livestock will be determined through the evaluation of monitoring data. All new roads must first be analyzed through the environmental process.

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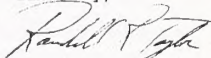
27 There are many fences, and more than many roads. People can and do drive everywhere. Wildlife are left with limited suitable habitat, and too few places where they can find isolation from vehicle access. This is too good of an area to be neglected or sacrificed.

One advantage of all the fences is that vehicular traffic could be easily restricted by eliminating gates or using gates that would restrict access to foot traffic only.

Because of the amount of interlaced private land, management plans should be coordinated with these owners, but I would imagine most of the owners would love to see more limited vehicle access to the area for the protection of their properties. Some of the riparian areas are on private land. Perhaps there could be incentives given for improved private management, where the land owner also uses public lands - managing for the overall picture.

Thank you for your efforts in managing our important public resources.

Sincerely,


Randall R. Taylor

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WILLIAM J. THOMAN

April 15, 1993

Renee Dana, Team Leader
Bureau of Land Management
Rock Springs District
P.O. Box 1869
Highway 191 North (82901)
Rock Springs, Wyoming 82902
307-382-5350

Re: Comments to the "Green River Resource Area Resource Management Plan and Draft Environmental Impact Statement"

Dear Ms. Dana:

Thank you for this opportunity to comment upon the "Green River Resource Area Resource Management Plan and Draft Environmental Impact Statement" (hereinafter referred to as Draft RMP).

I own and hold a number of grazing preferences within the Green River Resource Area (hereinafter referred to as Resource Area); I own and hold a grazing preference within the Lombard, Highway-Casson, Eighteen Mile and Rock Springs Allotments, and I own and hold shares to the Rock Springs Grazing Association, which authorizes me to graze livestock upon the checkerboard lands within the resource area (commonly referred to as the Rock Springs Lease, the Lease, and the Rock Springs Allotment). In addition, I own private land and certificated/vested water rights within the resource area. In addition, I own mineral rights within the resource area. In addition, my wife and I have lived and worked within this resource area for almost three-quarters of a century. During such time, we have witnessed the continued improvement of the resources within the resource area. We have a great love for the natural resources within the resource area. We continue to experience the many recreational and aesthetic characteristics of the resource area.

Because of my various interests within the resource area, I outline below my comments, including my suggested deletions and modifications. I focus my comments on the preferred alternative objectives and management actions since they are represented as being the Bureau's preferred approach. I contend that your acceptance of my comments will maintain, where needed, and improve, where needed, the resources within the resource area.

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Letter to Renee Dana, Team Leader
RE: Comments by William Thoman to Draft RMP/EIS
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To ease your review of my comments, I note the page of the Draft RMP in which my comment refers:

Draft RMP, page 7-9:

1 Comments: The Draft RMP is vague as to which lands are actually covered by the Draft RMP. Based upon Map C (Grazing Allotments and Land Status) and based upon footnote 5 (page 8-9) of the Draft RMP, it would appear that the majority of the Lombard Allotment, the southeast portion of the Highway-Gasson Allotment, and the southwest portion of the Eighteen Mile Allotment are not covered by the Draft RMP.

2 The Draft RMP is also vague as to whether the Bureau will continue to manage such areas. It would be appropriate for the Final RMP to identify whether the Bureau will continue to manage such areas "in accordance with an interagency agreement" and for what period of time. I have periodically heard statements by the Bureau with regards to management actions within the above noted areas. The Bureau claims that it must consult with BOR or it lacks authority. The Final RMP should identify whether the Bureau has administrative responsibilities over such areas or the BOR has administrative responsibilities over such areas. The "buck" must stop with one agency.

3 The Draft RMP is silent as to whether the Bureau will mitigate, pay, or transfer to another location my preferences in the above noted allotments if the BOR should elect to assume direct management, and thereby eliminate or limit my historical grazing use and preferences. The Final RMP should include such mitigation, payment, and/or transfer scenarios.

Draft RMP, page 16:

Comments: I agree that the "management of wild horse populations must be in compliance with the District Court Order."

I disagree with the "currently used appropriate management levels (AML) for wild horses were based upon the numbers agreed to and on existing land use plans."

4 The Final RMP should be modified to note that no "wild and free roaming horses & burros" existed in the Lombard, Highway-Gasson or Eighteen Mile Allotments upon the passage of the Wild Horse and Burro Act in December, 1971. This fact was confirmed in the early 1980's when all horses were gathered and it was confirmed that the horses were not "wild and free roaming horses", but were owned by me (or others). The Final RMP should note that the Lombard, Highway-Gasson or Eighteen Mile Allotments is a wild horse free area and should not be the part of any herd management area.

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Letter to Renee Dana, Team Leader
RE: Comments by William Thoman to Draft RMP/EIS
Page 3

Draft RMP, page 17:

Comments: I agree with your conclusion that the "Elimination of Livestock Grazing" alternative should be eliminated as an alternative. The Final RMP should be modified to note and emphasize that any elimination or limitation of livestock grazing should be based upon monitoring and implemented in accordance with the applicable regulations.

Draft RMP, page 32:

Comments: Management Objective relating to improvement of forage production and ecological condition:

5 (1) The Final RMP should be modified to define ecological condition and how ecological condition is determined. (The Final RMP should also include the definition of ecological condition in the Glossary). The general public often does not understand the concept of ecological condition and how ecological condition is determined. I contend it would be helpful and useful to the general public (including the Bureau) to define the concept and how the concept is determined.

6 (2) The Final RMP should be modified to maintain, not improve, areas in high (one step from pristine) and late serial (pristine) stage of ecological condition. To set an objective to "improve" high or late serial areas is unrealistic, because (as the Bureau knows) you can not go higher than "late serial" and is often difficult if not impossible to move some areas from high serial to late serial even if the Bureau totally eliminates of all uses. In addition, the Final RMP should be modified to maintain "some" mid serial areas for the same reason. In addition, the Final RMP should be modified to improve low serial areas and the other mid serial areas by one serial stage over the life of the plan. This revised objective would be more realistic, especially if the goal is to maintain or enhance existing uses.

7 (3) The Final RMP should be modified to prioritize the uses; for example, I agree and would advocate for Alternative B - "to benefit livestock primarily". The Final RMP must deal with the reality that conflicts are inevitable.

8 (4) In the alternative to (3), the Final RMP should eliminate the "to benefit livestock, wildlife habitat . . ." language because the objective of improving forage production and ecological condition are objectives in and of themselves. For example, I am informed that wildlife biologist would say that antelope prefer areas in a lower serial stage, and as a result, if the objective is to improve ecological condition and to improve wildlife habitat for

Comment Responses

197-1 Those lands are under the jurisdiction of the Bureau of Reclamation; however, the grazing is managed by the BLM under a Memorandum of Understanding.

197-2 The BLM does not have administrative authority over any lands other than public lands.

197-3 This is a topic for a site specific analysis. This document does not discuss the situation on the lands administered by the Bureau of Reclamation or Forest Service.

197-4 Numerous horses existed in those areas at the time the Wild, Free-Roaming Horse and Burro Act was passed in December of 1971. It is true that in the early 1980s you and others claimed many horses from these areas and your ownership was verified. However, not all horses in the area at the time of your claims were determined to be yours. Also your claims were not verified in 1971, and your ownership of many of the horses existing in the areas at that time was not established. After determining that your claims and those of others had been satisfied, horses meeting the test of being unclaimed and unbranded (as defined by the Act) still occupied much of the aforementioned area. Wild horses occupy the area now. The Preferred Alternative proposes to designate the Little Colorado Desert Area, including the Eighteen Mile and Lombard grazing allotments, as a Wild Horse Herd Management Area.

197-5 See Glossary for definition for "ecological condition."

197-6 This is our intention. "Improving" late seral stages means reverting them to early or mid-seral through some habitat manipulation. Our goal is to not have all of any one seral stage but a variety of vegetative communities in different seral stages. This will improve the general biodiversity of an area which will, in turn, benefit all wildlife species.

Page 32 of the Draft EIS does not state what ecological conditions would be improved. It clearly states that the management objective for livestock is to improve ecological conditions to benefit livestock, wildlife habitat, watershed values, and riparian values. This will be determined through site specific determinations.

197-7 Alternatives are not prioritized. The preferred alternative was designed to minimize conflicts and meet resource objectives.

197-8 The management objective is to benefit livestock, wildlife habitat, watershed values, and riparian values. Site specific objectives in activity plans will be developed from this overall management objective. The final site specific objectives will be developed with an interdisciplinary approach with input from all concerns.

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Letter to Renee Dana, Team Leader
RE: Comments by William Thoman to Draft RMP/EIS
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antelope, then you may have conflicting objectives; an objective for a pristine state versus an objective for mid-seral state.

Comments: Management Objectives relating to riparian habitat and "proper functioning condition".

- 9 (1) The Final RMP should be modified to define "proper functioning condition". Although it is defined in the Glossary, it is not defined in terms of any generally accepted monitoring standards or rangeland standards. In addition, the current status of the riparian areas is not identified; for example, 75% of what? If the Final RMP does not state the current status of such areas, how is the Bureau and the general public going to monitor to determine whether the objective is being achieved over time? The failure of the Draft RMP is that the current status will only result in the Bureau getting sued by some group based upon the "groups" own interpretation of 75%, or will only result in another permittee (including myself) being subject to grazing limitations because of someone's interpretation of 75%.

Comments: Management Action relating to "active preference".

- 10 (1) I disagree with this management action. The Final RMP should be modified to recognize grazing use up to and including "at least" total preference. This management action would give incentive to permittees to not just maintain the resources within the areas, but to improve the areas. If a permittee (including myself) was informed that he may never exceed active preference, then you give the permittee little if any incentive to experiment with new management practices or to develop additional water or to construct other facilities that enhances livestock and benefits other resources.

(2) In the alternative, the Final RMP should be modified to recognize grazing use "up to and including at least active preference". This would leave the door open for the allocation of additional use because of a permittee's efforts.

(3) In the alternative (and as a last resort), the Final RMP should be modified to define "active preference". There is a common understanding for this term between the Bureau and permittees, but it is not defined by the regulations. "Active preference" should be defined so it is that grazing use which has not been suspended by the Bureau.

Comment Responses

197-9 Proper functioning condition is defined in the Glossary and is thoroughly described in BLM Technical Report 1737-9 (available for review at the District Office or Green River Resource Area). Proper functioning condition is the goal that we are trying to reach on riverine and non-riverine riparian areas. It is not in itself a methodology for monitoring a riparian area and the BLM Manual does not designate which monitoring tool we have to use but instead leaves that decision to the individual resource manager. Methods available include greenline transect, woody belt transect, Wyoming permanent plot, utilization transect, hydrologic stream cross-sections, water quality sampling, and others. The bottom line is that riparian areas need to have certain characteristics present to be in proper functioning condition and those characteristics are described in general in the manual. In this resource area, the 75% level will refer to public land stream miles for the riverine riparian areas and public land acres for non-riverine riparian areas.

We have estimated that at this time we have approximately 20% of all our streams in proper functioning condition. We are mandated to have 75% of our riparian areas in proper functioning condition by 1997. We felt this was unrealistic. Some of our riparian areas may not return to this condition within 10 or 20 years; some may within 5 years.

The intent of this plan is to place highest priority on riparian area management and to return riparian areas to, as a minimum, proper functioning condition. As such, management plans will be in place which will lead to this level of condition as fast as funding and staffing will allow.

197-10 Active preference is the only level that can be recognized in this document until evaluations of monitoring data indicates a new active preference level. See Glossary for definition of "active preference."

197-11 Water gaps have not been identified as recreational sites and this plan does not address management actions for lands administered by the U.S. Fish and Wildlife Service.

197-12 Monitoring programs presently in place and planned for implementation take into consideration the causative factors related to resource problems. If it is possible to identify a particular species of animal or management tool as being responsible for any identified resource damage, then the appropriate management actions specific to said causative factors shall be implemented.

Wild horse populations have been under control and within established density parameters for the past several years. Big game populations are well within or below strategic plan objectives for most of the resource area. Observations and studies have concluded that in many areas, the primary method of decreasing soil movement and stabilizing some streams is to bring stocking rates within proper use levels. We are initiating studies and monitoring to determine which allotments and geographic areas have problems and are working toward resolving resource disturbance conflicts. Recommendations will be made in allotment evaluations to whatever may be causing excessive soil erosion and poor range condition. There is no mention of prioritization of use of forage in the RMP.

197-13 This document is assuming that there is adequate forage for agreed numbers of wild horses and strategic plan numbers of wildlife. If monitoring indicates that this is not happening and resource objectives are not being met, then adjustment to livestock numbers will be made. Also see responses to comments 16-9, 190-19, and 196-8.

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Letter to Renee Dana, Team Leader
RE: Comments by William Thoman to Draft RMP/EIS
Page 5

Draft RMP, page 33:

Comments: Management Action relating to developed and semi-developed recreation sites.

- 11 (1) The Final RMP should be modified to identify such areas. For example, one may interpret some water gaps along the Green River in the Lombard allotment as semi-developed recreation sites, but the fact is that such sites are the product of a contractual arrangement between myself and the USFW. The exclusion of livestock from such areas violates such agreement. In addition, the Final RMP should be modified to state "would be closed or mitigated". Mitigation may resolve unanticipated conflicts by the Bureau and permittees.

Draft RMP, page 34:

Comments: Management Action relating to authorized grazing preference.

- 12 (1) The Draft RMP previously made a point is its preferred alternative not to prioritize uses in its livestock management objectives, but here, in this management action, the Draft RMP does just that . . . prioritize uses. Forage for wildlife, wild horses or recreational use is above livestock. This is wrong, and wrongly assumes that excessive soil erosion and poor condition is or was caused by livestock. I agree that if authorized grazing preference is causing, as shown by monitoring, excessive soil erosion and poor condition, then livestock "may be" reduced. However, if the excessive soil erosion and poor condition is caused by the Bureau's failure to manage excess wild horses, the State's failure to manage its wildlife populations, and the Bureau's/State's failure to manage people, then livestock should not be placed in first priority for reductions. The same goes for forage needs. If lack of forage is caused by the Bureau's failure to manage excess wild horses, the State's failure to manage its wildlife populations, and/or the Bureau's/State's failure to manage people, then livestock should not be placed in first priority for reductions. The Final RMP should be modified to eliminate this management action. The Bureau's existing laws already provides adequate protection of the resource in cases of abuses by livestock, wild horses, wildlife, or people.

- 13 (2) The Final RMP should be modified to clarify that "existing forage reservation for wildlife and wildhorses". The "existing" forage demand by wildhorses already exceeds the AML levels identified in the Draft RMP. The Final RMP should correct this potential ambiguity. The Final RMP should clearly state that wildlife and wildhorses are allocated only "x" amount of forage, and if use exceeds such amount, that wildlife and/or wildhorses will be immediately removed. This is the only way that the general public including a permittee (like myself) can be assured that the Bureau will

Comment Responses

197-14 Thank you for your comment. The text has been changed.

197-15 The grazing on lands controlled by the BOR is administered for BOR by the BLM under a Memorandum of Understanding. The Allotment Management Plans are grazing plans that do not contain RMP planning level decisions.

197-16 Effects to private property are always a consideration. See response to comment 33-1.

197-17 We are aware that agreements exist with other agencies. These are site specific situations that will be analyzed in the allotment evaluations.

197-18 A 14-day camping limit is a state policy for public lands. The 200 feet is a minimum; if more distance is needed, this will be identified in a site specific analysis. Water gaps are often included in fencing design, and are identified through site specific analysis.

197-19 Thank you for your comment.

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Letter to Renee Dana, Team Leader
RE: Comments by William Thoman to Draft RMP/EIS
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not eliminate or reduce livestock simply because of the lack of management by the Bureau.

Draft RMP, page 35:

Comments: Management Action relating to fences.

- 14 (1) The Final RMP should be modified to include the word "livestock". The management action would then state "... along migration routes provided wildlife and livestock conflicts could be resolved." Assuming the Final RMP applies to the Lombard Allotment, I want the Final RMP to consider the potential impacts of fencing on livestock. For example, the Farson road fence, if ever considered again, should consider both wildlife and livestock.

Draft RMP, page 36:

- 15 Comments: Management Action relating to cooperative allotment management plans.

(1) The Draft RMP previously stated that land effectively owned by other agencies was not covered by the RMP, and that "Administrative jurisdiction (including land use planning) for these lands lies with the BOR." It would appear that until such a "cooperative allotment management plan" is prepared and finalized, then such areas were not covered by the Final RMP. If my conclusion is wrong, the Final RMP should clarify the point.

Draft RMP, page 38:

- 16 Comments: Management objective relating to mineral management.

(1) The Final RMP should be modified to include within the management objective that "Private property rights (i.e. mineral rights) should be considered in authorizing development where no surface occupancy may be allowed." This modification will insure that private property is not "taken" without just compensation, because if you prohibit occupancy for development, you effectively prohibit the development.

Draft RMP, page 52:

- 17 Comments: Management Action relating to green belt from Fontenelle dam to Flaming gorge Reservoir.

(1) The Final RMP should be modified to include at the end of such management action "unless it conflicts with pre-existing uses, like livestock grazing." As you know, there exists water gaps along the Green River within the Lombard Allotment. These

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water gaps were established because of a contractual arrangement between the USFW and myself. The Final RMP should not interfere with such contract. In addition, we have historically lambled along the Big Sandy river (within the Lombard, Eighteen Mile and Highway-Gasson allotments) and along the Green River (within the Lombard allotment). The Final RMP should not interfere with such historic and traditional practices.

Draft RMP, page 52:

- 18 Comments: Management Action relating to 14-day camping limit and dispersed camping.

(1) The Final RMP should be modified to include the term "livestock water gaps".

(2) The Final RMP should be modified to include an exception to the 14-day period during the season of use by livestock. In other words, the management actions should state: "A 14-day camping limit would be maintained on public lands, except in the event that livestock are present in which case there would be a 4-day camping limit, and at the end of the fourth day, the camper must move his camp at least 5 miles."

(3) The Final RMP should be modified to change from 200' to 450', because 450' is only 150 yards. This is still not a sufficient amount of area between water and camp sites, especially when livestock are present. People camping near livestock water sources will hinder livestock from accessing that source, thereby causing potential distribution problems. Furthermore, my comment is consistent with the management action that "new" recreation sites would not be developed in or within 500' of riparian areas and floodplain.

Draft RMP, page 60:

- 19 Comments: Management Actions relating to reducing phosphate and salinity loads, also within activity plans.

(1) The Final RMP should be modified to note that since the construction of the Fontenelle Reservoir salinity and phosphate loads have increased. This increase has occurred because the reservoir resulted in a broader underground aquifer or more pressure, if you will, on the underground aquifer which resulted in larger quantities of phosphates and salts in the soil being literally pushed to the surface by the increase water. I have noticed within the Lombard allotment a significant increase in salt in the livestock water within the Lombard allotment since the construction of the reservoir. As a result, the Final RMP should be modified to delete such management actions, because I seriously question whether such management actions are achievable in light of the existence of the reservoir.

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Letter to Renee Dana, Team Leader
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Draft RMP, page 61:

20 Comments: Management action relating to avoidance areas for surface disturbing activities.

(1) The Final RMP should be modified to note that such management action pertains to mineral exploration or development, or other type of mechanical development. I do not want the Bureau to assume that authorized livestock grazing constitutes "surface disturbing activities". In addition, the Final RMP should be modified to note that mechanical surface disturbing activity must be subject to reseeded requirements.

Draft RMP, page 63:

Comments: Management action relating to aquifer recharge areas managed to protect groundwater quality.

(1) See Comments above to Draft RMP, page 60.

Draft RMP, page 63:

21 Comments: Management objectives relating to wild horses.

(1) The Final RMP should be modified to note that such objectives "should be consistent with the Wyoming District Court's Order, and the Wild Horse and Burro Act."

(2) The Final RMP should be modified to include another objective: "To protect, maintain, and control wild horses within their 1971 use areas." See Comments above to Draft RMP, page 16.

Draft RMP, page 63:

22 Comments: Management actions relating to wild horses.

(1) The Final RMP should be modified to revise the 5 wild horse herd areas. Such areas are not consistent with the wild horse 1971 use areas. Any herd areas should be consistent with the wild horse 1971 use areas.

(2) The Final RMP should be modified to accept alternative A, regarding water developments. The language and expressed intent of the wild horse and burro act was to protect such animals within their "natural thriving ecological balance", not to protect such animals in an artificial environment. Such management action is inconsistent with the wild horse and burro act. In addition, such management action implies that livestock water developments will

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be required to give access to wild horses, but this is contrary to the Taylor Grazing Act upon which such improvements were constructed and is a potential "taking" of private property (i.e. range improvement) for public purposes (i.e. watering wild horses).

Draft RMP, page 66:

23 Comments: Management action relating to enclosures.

(1) The Final RMP should be modified to note that although such enclosures would be closed to livestock grazing, that incidental use by livestock of such areas will not constitute trespass. This will insure that such areas are established for the purpose of monitoring the resource or enhancing habitat, and not to establish trespass traps.

Draft RMP, page 67:

24 Comments: Management objective relating to candidate plant communities.

(1) The Final RMP should be modified to state the Bureau's intent to follow the law. Any species can be declared a "candidate species" by anyone with a \$0.29 cent stamp, because of this, it seems inappropriate for the Bureau to elevate its protection to plants which may not have a basis in law or fact to be protected over-in-above what the Bureau already is mandated to do under range science. This Draft RMP objective opens pandora's box on a variety of management problems for the Bureau, especially in light of the Bureau's continuing problem of "limited funding".

Draft RMP, general statements regarding season of use:

25 Comments: The Draft RMP endorses the existing seasons of use by livestock. For the record, I wish to note for the Final RMP the seasons of use and type of use within the preferences I own or hold:

Eighteen Mile:	sheep	5/1-1/31
Rock Springs:	horses	5/1-12/31
	cattle	5/1-12/31
Lombard:	cattle	5/1-1/31
	horses	5/1-1/31
	sheep	5/1-1/31
Highway-Gasson:	sheep	5/1-1/31

Comment Responses

197-20 This document does not state that livestock grazing is a surface disturbing activity (see Glossary). Reseeding is a requirement in surface disturbing activities.

197-21 (1) No such modification is necessary as the RMP objectives are consistent with the District Court Order (page 16) and the Wild Free-Roaming Horse and Burro Act.

(2) See response to comment 197-4. The law required the Bureau to establish Herd Management Areas (HMAs) wherever horses were found in 1971, but did not preclude the establishment of HMAs in areas, or expansion into areas, that were not occupied by horses in 1971.

197-22 (1) See responses to comments 197-4 and 197-21.

(2) Water developments on public lands approved under a cooperative agreement must meet multiple-use objectives. The water rights to such projects are co-filed by the applicant and the Bureau. Generally, the materials for these types of projects are supplied by the Bureau and the cooperator constructs the project. Since the Bureau manages livestock forage, as well as habitat for indigenous wildlife and wild horses, use of these projects by animals other than domestic livestock is not only allowed, but is guaranteed and no "taking" of private property occurs. The language contained in the law is "thriving ecological balance," the word natural does not appear in this reference. Existing water developments on the public land are a part of the ecological balance of the public lands upon which they are located.

197-23 Unfortunately, some of the monitoring enclosures have been used as "holding corrals" which defeats the use of these areas for monitoring or habitat improvements. The enclosures were established as a wildlife and recreation "mitigation measure" to the Sandy Grazing EIS which allowed for some conversions from sheep to cattle. Incidental use is not recognized in the grazing regulations. If livestock are found in the enclosure, trespass actions will occur.

197-24 The Candidate designation is not arbitrary; rather it is based on technical and scientific surveys done in the field by qualified biologists. Species are designated as "Candidates" for listing as Threatened or Endangered by the U.S. Fish and Wildlife Service.

197-25 The seasons of use and preference levels for the Eighteen Mile, Rock Springs, Lombard, and Highway Gasson allotments have been analyzed in the Sandy Grazing EIS and Salt Well-Pilot Butte Grazing EIS. Allotment Management Plans have been prepared for each the following allotments: Eighteen Mile, Lombard, and Highway Gasson. All use within these allotments is made in accordance with the Allotment Management Plans.

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The Final RMP should recommend that the applicable allotment management plans be revised to authorize grazing use within such seasons of use, because such seasons of use is good for the resource.

Thank you for this opportunity to comment. I am hopeful that you will carefully review and implement my comments.

Very truly yours,

William J. Thoman

WILLIAM J. THOMAN

cc: Gene Kinch - District Manager for the Rock Springs District

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February 23, 1993

Subject: Green River Resource Area
 Resource Management Plan and Draft Environmental
 Impact Statement

Dear Ms Dana:

I have a number of points of personal concern:

1. There seems to be a lack of explanation concerning investigation and enforcement of existing or future petroleum, hydrocarbon, hazardous material spills; leaks from dehydraters, on location storage tanks, and pipeline systems. Do I perceive a case of the fox (oil and gas producers) expected to watch the hen house, and to police themselves? With the 1989 figure of 1,700 wells in the RMP, the BLM appears to rely on chance discovery of violations or the fox to be of extraordinary moral character.
2. The only drilling exclusion corridor to protect the Green River from a well mishap is the 500 foot floodplain exclusion p.150. There is a ¼ mile exclusion zone along the Big Sandy, and Sweetwater Rivers. The Green River supplies drinking water for forty-thousand people in Sweetwater County. I have concern with the inconsistency and the minimal corridor exclusion. I would hope we learned something from the Bone draw incident, even if not directly related.
3. Should all drip gas evaporation tub areas be lined on all soils with permeability greater than .06 inches per hour? In areas of the country where water quality is of

198-1 The BLM has an Inspection and Enforcement staff that monitors all oil and gas activities.

198-2 The ½ mile exclusion along the Sweetwater River is the result of potential for inclusion in the Wild and Scenic Rivers. Prescriptions on the Big Sandy are for management of wild-life, scenic, and recreational values for the area surrounding the river. The 500-foot prescription referred to is only a guideline. If site specific analysis determines that additional area is needed for protection of water quality, appropriate measures would be applied to that action.

198-3 All fluids disposed of on site must meet the requirements outlined in Onshore Oil and Gas Order #7. It is prohibited under law to dispose of hydrocarbons on the surface. Soil permeability is always an important consideration with regards to impacts of groundwater.

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greater concern, whole site locations are lined before drilling. Many companies install monitoring wells before the rig moves on site and continue to monitor for the life of the well to provide safety and legal proof of a clean site.

4 Don Caster is working on an assessment of water monitoring needs(p.178). I would like to propose this be addressed as part of this resource management plan. With the 1989 figure of 1,700 producing wells, and the projection of 1,300 more wells in the next twenty years; I feel the 183 streams, (including 250 miles of Game Fish Spawning Areas) in the resource area need more emphasis toward monitoring and detection at or near possible sources for gas and oil contamination, before it can pollute the groundwater.

5 I feel the fact that the resource area went a year without an official Hazardous materials director shows the importance placed on the protection of the water and soil resources. With the I-80 and U.P.R.R. corridors moving a great amount of hazardous materials; chemicals-both liquid and gases, I feel a specific set of NIOSH guidelines or a note of referral to contingencies should be included in the final EIS. Specifically, how do the EPA, DEQ, and the BLM jurisdictions border in a crisis?

6 When an oil field is "abandoned," who does any subsurface hydro/geo investigation of a site? Many times soil or groundwater contamination is not easily identified at the surface, especially if any coverup was attempted and a duration of time involved.

Comment Responses

198-4 This is a part of the intent of the continued water quality monitoring program referred to on page 178 of the Draft EIS. Thank you for your recommendation for stream monitoring. This advice has been considered, along with all other public comment provided, in preparing our proposed plan.

198-5 When an emergency situation arises on public lands administered by the BLM, it is reported according to the emergency response process outlined in the National Oil and Hazardous Substances Pollution Contingency Plan (40 CFR 300) and is handled according to regulation by the Resource Conservation and Recovery Act (RCRA) and/or Comprehensive Environmental Response Compensation and Liability Act (CERCLA). Other agencies such as EPA and DEQ are integrated with the notification and regulatory process mentioned above.

198-6 BLM petroleum engineer technicians do the inspection to ensure the protection of the fresh water zones. Monitoring of oil and gas fields is continuous throughout their productive life and continues after abandonment, until any surface and subsurface problems have been taken care of. Only after all problems have been resolved can operators' bonds be approved for release.

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Freeman 3

7 Specifically, on page 151, number 9; do we discuss publicly the chance for a haz. mat. spill to a watershed before or when we permit certain wells?

I am leaving out number's 8 and 9. One dealt with whether oil, gas, and well by-products were hazardous waste if spilled on a well location, and the other concerning the proper handling of a spill in the past.

8 I am really sorry to have a case of the "sour grapes." I have worked at four E.P.A. sites around the country. I have worked at fifty Wyoming DEQ LUST sites in Sweetwater County in just the past year alone. I question the BLM ability to locate, define, and monitor a contamination problem before fish die or a major environmental catastrophe could take root if all the planning guidelines consist of what is in this EIS under "Hazardous Materials and Other Hazards."

With Sincere Concern,

David W. Freeman
David W. Freeman

198-7 In the planning process, consultation with local communities occurs allowing for discussion about hazardous materials spills in watershed areas.

198-8 In addition to its own internal regulations involving hazardous materials, BLM is required to follow federal environmental laws such as the National Oil and Hazardous Substances Pollution Contingency Plan (40 CFR 300), the Resource Conservation and Recovery Act (RCRA), and the Comprehensive Environmental Response Compensation and Liability Act (CERCLA). These laws and regulations are too complex in detail to be listed in the Resource Management Plan for the Green River Resource Area but are on file in BLM offices.

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(transcribed and typed for readability)

Dear B.L.M.,

April 19, 1993

These are my comments on the Green River Area Resource Management Plan and Draft Environmental Impact Statement.

I wish to commend your agency for constructing these volumes. The datum provided with the draft plans was so informative that I plan to incorporate it into my own lectures at Western Wyoming Community College. This was a splendid performance and the documents will be of significant historical value in the future. This, of course, does not mean that the reading was titillating nor does it mean that managing the various management schemes into a coherent vision of the future was easy. Thank you for Table 2:1 "Summary Comparison of Alternatives." Succinctly stated these documents are a credit to your agency.

My concerns and comments

- 1) While land use alternatives received nearly all your focus and I kept wondering, in terms of personnel, how the B.L.M. was going to carry out its seemingly numberless mandates. It would be a shame to see this blueprint become a paper document with no meaning on the ground. Today, for instance, large sections of the sand dunes and formal wilderness study areas but any day you can find people violating the status of these well marked areas. Perhaps a joint agreement on enforcement patrols, say with the Sweetwater County Search and Rescue, could help in this instance. At any rate, I hope that we your clients have not heaped your plate too full. A discussion of personnel needs in the future would have been helpful.
- 2) I strongly support Alternative C because I feel your population projections on Page 404 to be too short term to be of relevant use. If these plans are to carry use into the 21st century than I believe we must be cognizant of long term national and even international population trends. In my readings, the U. S. population will grow significantly in the next century with people gravitating away from cities toward open spaces, recreation, water and jobs. I expect that Sweetwater County in the 21st century will become the population, industrial and perhaps even the intellectual center of Wyoming. We need to carefully protect cultural areas, provide adequate space for unique ecosystems and recreational opportunities for folks stopping by and those maintaining residence. The crowds expected for the Oregon Trail convention this summer may be a harbinger for the future. Hunting, fishing and recreation on open unspoiled spaces as seen as part of the Wyoming wage and must be maintained and enlarged upon, thus my preference for Alternative A.
- 3) Where is conservation of resources in all these plans? Often in reading these volumes, I felt that my generation (thank you) had been invited to a huge barbecue and our accomplishment would be determined by gulping as much as possible as soon as possible. Where are the needs of the kids and grandchildren factored in? More long term projections on the markets for oil, natural gas, coal and trona would have been helpful. Assessments of what remains of key resources is critical to long range planning in this area.

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- 4) Coal bed methane production needs to be more elaborated upon in terms of emergencies. It appears to me and from your few charts on this matter that this new technology demands huge and novel electric power sources, vast wood returns, evaporative panels, pumps, etc. Wage usage and waste are problems associated with this process. Before giving the green light to this problematic development, we need to proceed cautiously, prudently, and with science as our guide.
- 5) It is bothersome to me that foreign forager, wild horses, sheep and cows are given such preference and deference in these reports and that native creatures such as antelope, buffalo (can we say the word "reintroduction"), eagles etc seem to take on a secondary standing. Is bovine bliss really important to our economy and ecosystem?
- 6) Of course, I am being mettlesome but we do need scientific investigations to determine grazing patterns over time, duration of rehabilitation, carry capacity of the land etc. Some interesting question might be assessed of the recovered data. Could buffalo thrive in the Red Desert? Have we lost plant species since 1900? Are our land more lush than in the 1930's? With science perhaps we could banish romantic notions of the West to the dim courses of history.
- 6) As a last query? Why were these volumes not printed on recycled paper.

Thanks for your great work and kind consideration.

Sincerely,

/s/ Chris Plant
Western Wyoming Community College
382-1240

Comment Responses

199-1 Thank you for your comment.

199-2 Thank you for your comment. Accurately predicting Wyoming population trends is difficult, if not impossible because of the number of factors involved which are beyond BLM's control. Events in California can send a wave of people relocating throughout the western United States; world trona market prices can affect employment in the Green River Basin almost overnight; the spot market price of oil can have similar effects; etc. For this document, we have used the best information we have received from the State of Wyoming.

199-3 The conservation of resources is delineated in each of the alternatives in Chapter 2. Each alternative describes, in detail, those resources which require protection, and the level of that protection.

199-4 Coalbed methane exploration and production activity has occurred in other parts of the United States for more than 15 years. Within Wyoming and the Green River Resource Area, activity only began in the late 1980s, where geologic conditions were determined to be most favorable. This document is intended only to provide broad guidelines for management of resource development and protection. More environmental analysis will occur as each individual coalbed exploration site is proposed. If exploration is successful and large scale field development is proposed, then additional environmental analysis and cumulative impact analysis will occur.

199-5 The Taylor Grazing Act, FLPMA, and the Wild Horse Act establish that use be managed on public land. The management objective of this RMP is to improve forage production and ecological conditions to benefit livestock, wildlife habitat, watershed values, and riparian values.

199-6 The GRRA has been monitoring habitat conditions and has scientific data available for public review.

199-7 All government contracts for printing include an item in the specifications urging the printer to substitute recycled paper whenever possible, rather than being a mandatory requirement, as not all paper grades or types are available in a recycled sheet. The Bureau always specifies recycled paper when it is available in the sheet being used. In the case of the printing contract for Bureau planning documents, under which this RMP was printed, it is at the printing contractor's option. The reason it is an option and not mandatory is that there is such a demand for recycled paper it is not always available at the time these jobs are printed. Because of the length of time required for delivery of recycled paper, the short printing time allotted for these types of jobs does not allow the Bureau to wait for delivery if the contractor does not already have it in stock. This was the case with this document.

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RE: Rock Springs District/Green River Resource Area RMP and Draft EIS.

Renee Dana, Team Leader
Bureau of Land Management, Rock Springs District
P. O. Box 1869
Rock Springs, WY 82902

Dear Ms. Dana:

These comments specifically address the Air Quality Management portions of the above document. The analysis, conclusions, coordination measures and description of air quality impact resulting from the proposed RMP are inadequate, inaccurate, and in some cases misleading.

- 1 There is no adequately specific treatment of present, cumulative air quality impact from BLM-permitted activity, such as oil and gas exploration, production and transportation. Considerable air quality data has been collected by the State of Wyoming, the BLM, the U.S. Forest Service and industry concerning the present and potential effect of development on the affected airshed, yet no detailed breakdown of present and projected impacts are treated except for localized H₂S.
- 2 Testimony at a Wyoming Air Quality Board meeting in Rock Springs in 1991 indicated that fog (properly smog, because of volatile organic compound emissions) is already a problem in the Rock Springs-Green River Area, yet this RMP contains no analysis of current levels of emissions for the southwest Wyoming airshed, even though these are available from the State of Wyoming Dept. of Environmental Quality, Air Quality Division. Their 1992 allowable emissions totals for the two pollutants of most concern for acid deposition are 92,137 tons/year of SO₂ and 115,484 tons/year of NO_x (Collins, 1992).
- 3 Given the wind patterns shown on your Map 81, p. 532, potential long-range emissions from northern Utah are also a concern. Figures for the five Wasatch Front counties were 81,360 tons/year SO₂ and 65,079 tons/year NO_x in the 1980's. Estimated emissions increases for Wyoming and Utah from 1980-2030 are +42% for SO₂ and +142% for NO_x (NAPAP Interim Assessment, v. II, p. 3.28-9.) Given the current concentration of industrial activity on the Rock Springs District and these estimated increases, the cumulative effect of mining, large-scale drilling, gas transportation and processing, and coal-fired powerplant operation may be significant. Proposed increases in these activities must be analyzed for cumulative air quality impact before further permits are allowed.
- 4 The impact on nearby Class I airshed is not properly addressed. The US Forest Service has an affirmative responsibility to prevent significant deterioration of air quality in Class I Areas, two of which--the Bridger Wilderness on the Bridger-Teton NF and the Fitzpatrick Wilderness on the Shoshone NF--are located downwind of the Green River Resource Area, Rock Springs District. Given the wind patterns shown on your Map 81, p. 532 and the concentration of petroleum development shown on Map 89, p. 728, there is clear concern about additional SO₂ and NO_x emissions located on the Rock Springs District. In 1992, the US Forest Service reported on the Bridger Wilderness as follows:

When the results of sulfate deposition are plotted against the ANC (acid neutralizing capacity) of lakes such as Deep Lake, the evaluation procedure shows the lake to be in the middle range of uncertainty. This means the lake is not presently acidified but if the amount of sulfate deposition were to increase in the future beyond an unknown amount, the lake could acidify. Since there are several other lakes in the Wind River Mountains more sensitive (in other words with less ANC) than Deep Lake, it is apparent that under the current regime of deposition these lakes are even closer to an acidification threshold.

(Galbraith, Alan, C. Harrelson and C. Rawlins. *Acid Deposition in the Wind River Mountains, AQRV Report #2*, Bridger-Teton National Forest, 1992, p. 37.)

== C. L. Rawlins ==

Comment Responses

200-1 See response to comment 188-45.

200-2 See response to comment 94-13.

200-3 See response to comment 94-13. Also, cumulative impacts from regional sources are included in analysis for permits for large (PSD) sources.

200-4 See response to comment 188-54.

200-5 Because dispersion of air pollutants is very sensitive to wind patterns which in turn are very sensitive to local topography, it would be misleading to draw conclusions about the amount of development which can be allowed in the area when the location and layout of the development would be hypothetical. The general conclusions given here, based on relative growth of emissions, are as reliable as a complex dispersion analysis would be.

200-6 See response to comment 188-46.

200-7 See responses to comments 94-13 and 188-54.

200-8 See response to comment 188-48.

200-9 See response to comment 94-13.

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The largest contiguous area of Class I airshed in the United States is in western Wyoming, including not only the Bridger and Fitzpatrick Wildernesses, but Teton and Yellowstone National Parks and further adjacent wilderness areas. Given the prospect for industrial development in the Rock Springs District along with the amount of air quality data available and the level of federal agency, state and public concern for increased SO₂ and NO_x emissions in southwest Wyoming, the information and analysis of the impact of the proposed activities in this RMP is not only insufficient, but perhaps consciously misleading.

- 6 A cumulative air quality impact analysis is needed. The recent BLM Big Piney- La Barge Coordinated Activity Plan estimates cumulative air quality impacts for that area, but no such specific tabular estimates are present in the Green River area RMP. These are needed to properly judge the cumulative air quality impact of the proposed activities, particularly petroleum and coal development. Also absent are specific guidelines for monitoring and coordination with the state and federal agencies. These should be specified as to activities, reports required, and time-frames. The sections on air quality coordination and monitoring are presently not much more than general statements of good intentions.

Further detailed comments referenced by page number follow:

- p. 19-- A "case-by-case basis" is the poorest possible method of analyzing and planning air quality management, since cumulative airshed loads and long-range effects are not taken into account.
- p. 245-6-- Detailed support for reaching these management objectives is lacking, and the above comments on "case-by-case" administrative action applies.
- 7 p. 288-- The BLM doesn't need to initiate more study on air quality as much as it needs to pay attention to the studies in progress and support them with funding to the extent that they meet present BLM needs for data. Long-term air quality data is available from the National Atmospheric Deposition Project for at least 5 sites in southwest Wyoming, with additional databases in development by Bureau of Land Management researchers in Fort Collins, CO, US Forest Service, IMPROVE Visibility monitoring program, and university and private researchers.
- p. 337-- above comment applies.
- 8 p. 344, ¶2--Figure 7 is erroneously labeled. There is no monitoring site at Green River Lakes. The NADP monitoring site near Pinedale (WY 06) has been reporting since 1983. Other sites and dates include: Gypsum Creek (WY 98) 1985--; Indian Park (bulk deposition) 1984-1992; Hobbs Lake (bulk deposition) 1984--; Black Joe (bulk deposition) 1984--; Lester Pass (bulk deposition) 1984-1992; Sinks Canyon (WY 02) 1984--; South Pass City (WY 97) 1985--. Chemical data tables (for Ca, Mg, K, Na, NH₄, NO₃, Cl, SO₄, PO₄, H⁺, and total cm ppt) from these sites are included in Galbraith, Alan, C. Harrelson and C. Rawlins, *Acid Deposition in the Wind River Mountains, AQRV Report #2*, Bridger-Teton National Forest, 1992, p. 37.) There is also an NADP site south of Evanston, Wyoming which has reported data relevant to any treatment of air quality in the Rock Springs District.
- p. 345-- The graphed data is from NADP site WY 06, east of Pinedale Wyoming, while the page label claims it as data for Green River Wyoming, about 100 miles to the south.
- 9 p. 481-- Heavy deterioration of visual resources is already occurring in the South Pass area, in terms of measurable SVR (Standard Visual Range) values, arguing that little "special consider-

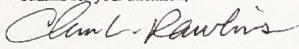
== C. L. Rawlins ==

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ation" is being given at present, and that specific monitoring is necessary to prevent further deterioration of visual quality.

- 10 p. 490-- The "Emission Factor" is only an estimated value per unit, not an estimated impact value for the area of concern. This table should be worked out according to the proposed activities to give total estimates for the listed pollutants by year for each proposed alternative.
- 11 p. 491-2-- The statement in ¶ 2 as to the interpretation of Map 79 is inadequate and possibly misleading. There is no explanation of "Climatological Pollution Potential" in terms of parameters measured, pollutants included, how "pollution potential" values are calculated, or any relevant factors supporting this map as useful.
- 12 p. 530, ¶2-- It is the responsibility of the BLM and this EIS to compare the potential impact of the activities listed in Table 4-22, at the levels proposed in this document.
 ¶3-4-- The TAPAS Maps, #80 and 81 should be adequately described as to seasonal variation in wind patterns, since the winter and summer airflows are significantly different and could affect the impact and timing of emissions-producing activities.
- 13 p. 562-- It is the responsibility of the BLM and this EIS to compare the potential impact of the activities listed in Table 4-22, at the levels proposed in this document.
 p. 589-- This is not an analysis of impact. An air quality impact analysis for each pollutant listed in Table 4-22, at the levels of activity proposed in this document (such as drilling estimates in Table 4-33, p. 588) should be prepared, with values for each pollutant and for each alternative.
- 14 p. 618-- Table 5-2 does not address air quality coordination with the U.S. Forest Service and National Park Service for PSD protection of Class I Areas required under the Clean Air Act. The BLM responsibility to document that permitted leasing action is not causing Significant Deterioration as defined in the Clean Air Act is likewise not addressed as a requirement.
- 15 p. 692-- No standards for monitoring, reporting, or public review are included, even to the extent of those required under present law. For air quality management, permit-specific technical reviews are insufficient without a statement of present cumulative impacts and the consideration of each permit in terms of cumulative impact over the years during which this plan will be in effect. There is no statement for any specific pollutant besides H2S. Please refer to your Table 4-22 for a partial listing of pollutants which may be of concern in this RMP.
- 16 p. 728-- Map 89. A larger-area map showing the relationship between the Rock Springs District and nearby Class I areas is available in *Acid Deposition in the Wind River Mountains, AQRV Report #2*, Bridger-Teton National Forest, 1992. Because the Rock Springs District is part of larger airshed context, such a map should be included.

Thanks for your attention.


 Clem L. Rawlins

== • C. L. Rawlins • ==

Comment Responses

- 200-10 See response to comment 188-45.
- 200-11 The explanation of these figures is given at the bottom of column 1 and top of column 2 of page 530 of the Draft EIS. Further information may be obtained by calling the BLM Wyoming State Office.
- 200-12 See responses to comments 188-45 and 200-11.
- 200-13 See response to comment 188-45.
- 200-14 See response to comment 188-52.
- 200-15 See response to comment 188-46.
- 200-16 The Class I areas in Wyoming are listed on page 344 of the Draft EIS. Maps are on file in our offices.

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Ronald K. Smith

March 1, 1993

Renee Dana
 Team Leader
 Bureau of Land Management
 PO. Box 1869
 Rock Springs, Wyo. 82902

Dear Ms. Dana:

I wish to make the following comments on the Green River Resource Management Plan and Draft Environmental Impact Statement, hereafter referred to as simply the Draft EIS:

In general, I would like to complement the BLM on putting together some very powerful and comprehensive Management Objectives. If these objectives can be obtained, the Green River Resource Area will be much better managed in the future than it has been in the past. However, judging from the material in the proposed Management Actions, designed to accomplish the various Management Objectives, it does not appear, in some cases, that the BLM has a clue of how to accomplish the objectives. The powerful and comprehensive Management Objectives therefore become little more than meaningless platitudes. Hopefully the comments received will enable BLM to generate the necessary Management Actions needed to accomplish the stated objectives.

I would also like to point out that the document is replete with numerous inconsistencies, contradictions, important data that appears to have been pulled out-of-the-air, and incongruent information. Also, the alternatives in most cases are identical, or nearly so. The alternatives are also incongruent. In some cases, for example, Alternative B emphasizes commodity development at the expense of renewable resources while Alternative C may emphasize wildlife or archaeological values while restricting commodity development. Yet in other situations, Alternative C emphasizes development at the expense of wildlife or archaeological values while Alternative B offers greater protection of the wildlife or archaeological values.

201-1 See responses to comments 27-1, 27-8, and 27-14.

201-2 See response to comment 198-8.

201-3 See responses to comments 94-15 and 132-9.

201-4 Lands identified for possible disposal, of which exchange is the first priority, are listed in Appendix 8-1. These lands were selected because they are either isolated without public access, within the growth area of cities, have potential for sanitary landfill sites, or have been previously mentioned as having potential for recreation or public purpose sites. The criteria for such disposal is outlined in Appendix 8-2. Disposal actions and recreation and public purpose leases/patents are considered on a case-by-case basis, an environmental assessment is prepared, and a public comment period and opportunity for protest is given for each action. All BLM disposals must be in the public interest.

In certain instances where public interest is foreseen, BLM will publish information on public lands that are being acquired or disposed of in a land transfer process. Regulations involved in this process are too complex in detail to be listed in the Resource Management Plan for the Green River Resource Area but are on file in BLM offices. Information regarding all lands presently under consideration for sale or transfer can also be accessed at BLM offices.

201-5 The National Environmental Policy Act (NEPA) requires the BLM to notify the public on all resource management decisions made in planning documents. Public comments are accepted on proposed planning decisions such as the "suitability" of any river, stream, etc., studied in this document.

201-6 See response to comment 171-13.

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- 1 In short, the alternatives are not comprehensive, they do not provide a reasonable range of choices, nor do they even allow the public to make a rational choice as to which alternative may espouse their particular viewpoint.

As much as I dislike suggesting that we repeat the Draft EIS process, I cannot in good conscience recommend any other alternative. BLM should try again. This time, more effort should be put into providing the public with a reasonable range of choice in alternatives. The incongruencies, unsupported information and gross errors should also be eliminated. Never-the less, here are my specific comments for consideration in the Final EIS:

SOLID WASTE, HAZARDOUS AND TOXIC MATERIALS RELEASE AND DISPOSAL.

I concur with the stated management objectives for dealing with hazardous and toxic substances as contained in the Draft EIS. I strongly concur that those responsible for contamination of public lands should be responsible for the testing, clean-up, remediation, restoration of resource damage and other liabilities associated with hazardous and toxic substances spills, releases and contamination. Regulations and stipulations designed to prevent hazardous and toxic substance spills and to protect the public and public lands from the impacts of hazardous and toxic substances should be strictly enforced.

- 2 I am particularly concerned about the effects of oil and gas and other mineral industry actions on migratory birds, and other wildlife species by actions that contaminate and degrade water and air quality. The BLM should ensure that activities by industries using public lands that could cause hazardous or toxic substance releases are properly monitored. I would like to know what BLM does to ensure that industries actions regarding toxic and hazardous substance handling and management are properly monitored, reported and documented. Please report this information in the Final EIS. I also recommend that BLM revoke any leases, licenses or other privileges of any individual, partnership or company that willfully violate any law, regulation or stipulation concerning hazardous or toxic substance management, use or disposal. What is BLM's current policy for dealing with offenders? This information should be contained in the final EIS.

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- 3 Sale or transfer of public lands on which storage or disposal of hazardous materials, solid wastes or toxic substances has occurred or planned should only be considered if the sale or transfer of these lands is in the best interest of the general public.
- 4 Preferred, should be the cleanup of these lands by the responsible parties and/or the reclamation and remediation of the lands after use. These lands should then be placed back into multiple use by the BLM. I believe that it would only rarely benefit the public to sell or transfer any additional public lands. The sale or transfer of any public lands should not be considered without first giving the general public an opportunity to comment on such a sale or transfer through a complete EIS process. What is BLM's current public notification policy and procedure concerning the sale or transfer of public lands? These policies and procedures should be printed in the final EIS. What lands are currently under consideration for sale or transfer? A detailed description, including maps, of these lands should be contained in the final EIS.

Wild and Scenic Rivers

I concur with the recommendation that BLM, BOR, and the USFWS conduct a study to determine eligibility and suitability of the Green River for inclusion into the wild and scenic river system. I believe that the Sweetwater River also has outstanding historical, scenic, ecological, natural, cultural and recreational values. This stream should also be included in the study.

- 5 What is BLM now doing or planning to determine the eligibility and suitability for inclusion into the Wild and Scenic River System of each of the candidate streams identified in the Draft EIS? This information should be addressed in the Final EIS.

Access

- 6 I agree with BLM's proposed access need recommendations as contained in Table 2-8. In addition, assured access to public lands within the checkerboard and other areas interspersed with private and state lands should be given the highest priority. I have personally witnessed members of various livestock grazing organizations proposing to cut off public access to public lands in the checkerboard. This has already occurred in some areas of the state.

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The BLM should aggressively pursue access to these areas, using the federal governments condemnation powers and the Unlawful Enclosure of Public Lands Act when necessary.

Ranchers are guaranteed access to their private lands through public lands. The reciprocal should also be true, especially since roads allowing ranchers to access their lands are most often maintained at taxpayers expense. BLM should initiate the necessary procedures to insure that the public has access to "our ranch".

Gaining access to public lands is becoming increasingly difficult and more expensive. What is BLM's plan and time table for gaining access to the areas mentioned above? The final EIS should show BLM's plan and timetable to provide current and future public access to the lands shown in Table 2-8 and the checkerboard.

Realty

7 In the preferred alternative it states that approximately 13,000 acres of public land have been identified as meeting the criteria for consideration for disposal. What are the criteria for lands to be considered for disposal? It is my understanding that many of the lands currently being considered for disposal are lands on which ranchers have illegally built barns, sheds, houses, corrals, fences, and other facilities or have illegally put public lands into cultivation. Is this true? These actions should in no way cause the BLM to consider the lands for disposal. Instead, the offending party should be immediately required to remove the illegal facilities.

8 In the final EIS please provide a detailed description, including a map, of each parcel of land considered for disposal along with the reasons why each land parcel is being considered for disposal. What opportunities will the BLM provide the general public to oppose disposal of these lands? How will the general public be notified that a land parcel is being considered for disposal? I believe that only rarely would the public interest be served by the disposal, agricultural lease, or DLE of any additional public lands. If it is determined by the general public that a specific tract of land is suitable for disposal, I believe that land exchange is the method that should be pursued to facilitate the disposal. The BLM should however only proceed with land exchanges when the majority of the general public agrees that the land exchange is fair and equitable. In

201-7 Sale or exchange is one option for dealing with trespass situations where there are long-standing permanent facilities (30 to 100 years), and/or where land survey problems exist. These disposal actions are considered on a case-by-case basis, an environmental assessment is prepared, and the public is given the opportunity to comment/protest (see Appendix 8-2).

201-8 See response to comment 201-4.

An exchange to block up checkerboard lands is being discussed, but it will be on a State-wide basis.

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too many cases the public has come out on the short end of the stick in public/private land exchanges.

The preferred alternative states that approximately 22,000 acres of land would be considered for acquisition. I strongly support the acquisition of lands to facilitate natural resource management objectives. The BLM should also aggressively look at acquiring private lands within the checkerboard. The give-a-way of public lands to the railroads by congress was the original "sagebrush rip-off." It should have never happened. I believe the public would strongly support an effort to correct this wrong.

9 The draft EIS states that advertising signs on public lands adjacent to county roads or roads included in BLM's transportation plan would be required to meet criteria for federal or state highways. This is one of the more ridiculous sections of the draft EIS. Rather, I believe that signing of roads should be done with rustic signs that blend in and will not detract from the natural characteristics of the landscape.

I believe that new withdrawals are needed and required to protect various resource values. I support BLM's desire to add additional withdrawal areas. We must recognize that not every acre of land can support each and every possible use. It must also be concluded that some multiple uses will necessarily preclude or destroy other uses. Important resources should be protected through withdrawals.

10 I do not support the preferred alternatives objective of "approximately 3.5 million acres of withdrawals being revoked." This objective of the preferred alternative should be deleted. Withdrawals should only occur after the general public has the opportunity to comment and concur that a withdrawal should be revoked.

WILDLIFE MANAGEMENT

11 I concur and support the wildlife management objectives for the preferred alternative. I also support the management actions of the preferred alternative with the following modifications: I believe that potentially high as well as high value wildlife habitat should be improved. In many cases, high value wildlife habitats have been destroyed, or degraded by previous management actions, particularly in riparian and/or rare habitats in the district. These habitats should be restored.

201-9 The text about advertising signs has been deleted.

201-10 See response to comment 11-3.

201-11 We agree this is the direction we are going with this plan. Revisions of existing Habitat Management Plans and new HMPs will consider improvement of degraded and "potential" high value wildlife habitat.

Comment Responses

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- 12** Accommodating changes to Wyo. Game and Fish Dept. planning objective levels should be done as a matter of course by the BLM. These changes have been approved by the general public through a rather intense public meeting process that the BLM has complete access to, and are based on sound wildlife management principles. There is ample habitat for large increases in most wildlife species in the Resource Area, although to accomplish this goal livestock numbers may have to be reduced or eliminated.

- 13** BLM should not only cooperate with the Wyo. Game and Fish Dept. on studies for the reintroduction of native and non-native wildlife and fish species but should actively and immediately initiate such studies and begin preparing introduction schedules, plans and time tables for accomplishing these reintroductions. I strongly believe and support the reintroduction of extirpated species. There is ample habitat for reintroduction of such species as Bison, Bighorn Sheep and the Colorado River Cutthroat Trout within the Resource Area. These species have been mentioned for reintroduction in several past resource management plans and other BLM documents.

It is past time for reintroduction plans, that have been given overwhelming public support, to be implemented. To achieve true biodiversity BLM needs to start the process of aiding the re-establishment of wildlife species that were eliminated due to past management abuses. It is also time to start listening and paying more attention to the public on actions such as this and begin ignoring those that are only out for their personal economic gain at the expense of public resources and public money.

- 14** Water developments designed to benefit livestock (including feral domestic horses) should not be developed in important or crucial wildlife winter ranges or other important wildlife habitats unless it would benefit the important wildlife species inhabiting the area.

I strongly support the establishment and maintenance of exclosures in important wildlife habitats. These exclosures should be permanently closed to livestock grazing. The exclosures are particularly needed in riparian and wetland areas. These exclosures will be an invaluable scientific and political tool to show the abuse that public lands are now exposed to, the cause of that abuse, what needs to be done to rectify that abuse and how public lands should look when proper management is employed.

- 201-12** Thank you for your comment. We have worked with the Wyoming Game and Fish Department and livestock permittees on many habitat projects over the years.

- 201-13** The Wyoming Game and Fish Department is responsible for wildlife population management, while the BLM is charged with enhancement and management of habitat on public lands in Wyoming. BLM evaluates suitable habitat and multiple use conflicts for introduction and or reintroduction of wildlife. Even though our two agencies have different mandates, we work together on many projects.

- 201-14** Each new individual water development which falls in habitat designated as big game crucial winter range is evaluated by an interdisciplinary team to assess its beneficial and/or adverse impacts. Consequently, some waters are approved while many others are not allowed.

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LIVESTOCK GRAZING

- 15** The preferred alternative and the other alternatives make it clear that BLM intends for livestock grazing to be business as usual. It should be evident by recent national, state wide and local events that this is totally unacceptable! The document indicates that approximately 180,000 AUMs are in current use by livestock and I have yet to talk to a BLM biologist or range conservationist who would tell me that the range is in good condition. In fact most will admit that the range is in a poor to nearly terminal state. Even the Draft EIS admits to 34 allotments being in unsatisfactory or declining condition. It is incomprehensible that BLM is now proposing to allow additional livestock use up to 318,647 AUMs (a 43% increase in livestock grazing over current use). How can you justify this? I don't believe there is any philosophical or economic logic and certainly no biologically sound argument that can be found for increasing livestock grazing. Is there? The final EIS needs to readdress the issue of livestock grazing. When any sensible person looks at the economic and environmental consequences of livestock grazing on public lands the only rational conclusion that can be drawn is that livestock numbers should be drastically reduced or eliminated from our lands. BLM should thoroughly address the alternative of eliminating livestock from public lands. There is no good reason not to. Is there?

- 16** I believe that the public is educated enough on this issue to support (and protect) BLM from the infinitesimally small number of "cowboys" who would be upset over this action. Included in the no livestock grazing alternative, some innovative actions could be proposed to lessen the impact and provide jobs for this minute number of people. For example, it would take several years of hard labor to remove all of the fences placed on public lands over the past 100 years to benefit the livestock industry. The "cowboys" (and the "sheep boys") could be employed by the government to remove these fences. The removal of livestock from public lands, by the way, would aid the BLM in meeting stated objectives to improve riparian areas, facilitate easier reintroduction of extirpated species, and meet wildlife management objectives, just to name a few.

The livestock people could also be put to work remediating the environmental damage that their livestock have perpetrated on

- 201-15** The no grazing alternative was analyzed in the Draft EIS on page 17. The active preference is the level that must be recognized until evaluation of monitoring data indicates otherwise. Of the 34 allotments in the I category, not all have declining range conditions.

- 201-16** Thank you for your comment.

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public lands. This would serve to employ the older generation of ranchers for the rest of their lives, and slowly and smoothly ease livestock people from their welfare lifestyle. The younger generation could be provided training for less environmentally detrimental line of work. Such a program would surely be less fiscally and environmentally painful than what the current grazing program now is.

To make the transition less painful to the industry, livestock could be phased off the resource area lands over the next 10 years in 10% increments. Elimination of livestock from crucial wildlife winter and parturition ranges, riparian areas and important recreation areas should be done first.

- 17 Realizing the immediate (it will eventually happen) futility of this proposal I am suggesting that the BLM implement the following actions: The BLM should immediately implement sound and proper range monitoring practices. These practices should be conducted as needed (at least seasonally), in each allotment. The new practices should ensure that the condition and productivity of each allotment is known prior to livestock being allowed on the allotment. The procedures should ensure that overuse of vegetation (no more than 35 to 40%) is not nor will not occur in any allotment, or habitat type within an allotment including riparian areas.

- 18 A riparian management plan should be in place in each allotment prior to livestock being allowed on the allotment. Several large (at least 10 to 100 acre) grazing exclosures should be located and constructed in each habitat type within each allotment. Monitoring should also be designed to insure that wildlife (birds, fish, mammals, amphibians, reptiles, and other faunal component) populations are not impacted by livestock and that erosion, compaction of soils, trampling, and stream degradation is not occurring. If these negative conditions are found at the time of seasonal monitoring it should be provided that the livestock operator immediately (within 48 hours) remove his livestock. Stiff penalties should be defined and enforced for violation of stipulations. What monitoring practices are currently in place and being utilized to determine the condition and use in each allotment? How often are they conducted in each allotment? Please provide a list of monitoring data including date of monitoring for each allotment in the Final EIS.

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- 19 Significant grazing reforms are in order if livestock grazing is going to palatable with the public. Atrocities, both fiscally and environmentally are currently occurring. This should be unacceptable to both the public and to the agency that the public has entrusted management of our land to. Do you agree?

- 20 An example of what is now occurring is visible near the FMC and General Chemical Trona Processing Plants. A significant number of pronghorn antelope have died in this area during the past couple of months due to weather and poor range condition. Many more antelope are now in very poor condition. Yet, BLM allowed at least three different sheep herds to be dumped out on that same range. Does BLM consider this to be proper range management?

RANGE IMPROVEMENTS

- 21 BLM has indicated that 28 out of the 34 "I" Category Allotments have riparian habitat problems or conflicts, yet none of these allotments will receive riparian grazing exclosures. WHY? This would seem a necessity. I request that several large riparian habitat grazing exclosures be placed in each allotment. It shouldn't be necessary to mention this but just in case... All grazing exclosures should be removed from livestock grazing. I have personally seen livestock in grazing exclosures. I can also point out many other grazing exclosures where it is difficult to walk more than a few steps without stepping in a "cow pie". Does BLM condone grazing in grazing exclosures?

- 22 BLM has a good set of fencing standards that help to mitigate conflicts with wildlife migration. Even so, hundreds of miles of non-standard fences exist within the resource area. In the final EIS please identify, on a map, the location of these non-standard fences. Also, please identify the location of illegal fences, mostly constructed by ranchers. Please define BLM's plans and time table to have each of the non-standard fences modified to standard conditions and for the illegal fences to be removed. I recommend that the agency or individual responsible for building the non-standard fence or illegal fence be financially liable for making the modifications or the demolition.

- 23 Fencing is a critical issue in the resource area and else where in Wyoming. Fences can and do cause great harm to wildlife populations. Non-standard highway fences are particularly

201-17 Range monitoring is presently being conducted on all allotments in the Resource Area to determine if rangeland objectives are being met. In certain allotments, utilization limits have been established to ensure resource objectives will be met.

201-18 The GRRA is in the process of revising AMPs to include riparian objectives, when these AMPs are evaluated. The GRRA monitors actual use, precipitation, utilization, and trend on all allotments. The Final EIS does provide for utilization levels based upon proper functioning condition of riparian areas. Also see response to comment 171-29.

201-19 As a land management agency, BLM is charged with ensuring that proper land use will ensure productivity of the land for future generations.

201-20 The area in question is in the Kemmerer Resource Area and not part of this plan.

201-21 See response to comment 171-29. This recommendations are to exclude grazing from all exclosures.

201-22 The BLM is examining all fences constructed on public land and possible conflicts to wildlife movement. See response to comment 190-16.

23 **Conrd** numerous and devastating to wildlife populations. The BLM apparently allows the Wyoming Highway Dept. to build non-standard fences across public lands with little or no form of mitigation to migrating wildlife populations. This is likely in violation of the Unlawful Enclosure of Public Lands Act. Please note that the US Forest Service does not allow the Wyo. Highway Dept. to fence Forest Service administered lands in most locations throughout Wyoming with no apparent major negative consequences. I have Unlawful Enclosure of Public Lands Act. Please note that the State of Utah and other western states do not fence many of their major highways through public lands, with no apparent negative consequences. Also, the U. S. Forest Service does not allow the Wyoming Highway Dept. to fence many of the Forest Service administered lands. Why does the BLM allow The Wyoming Highway Dept. to fence BLM administered lands with wildlife proof fences with little or no mitigation for allowing migrations? What plans does BLM have to rectify this situation?

BLM should reexamine their policy of allowing the Highway Dept. to indiscriminately fence huge expanses of public lands. The BLM has an excellent opportunity to mitigate some serious impacts to wildlife populations by requiring the Wyoming Highway Dept. to mitigate fencing impacts to wildlife. The BLM could also help educate the Wyo. Highway Dept. in proper environmental and even fiscal responsibility, something that is very badly needed.

The BLM should not allow the Highway Dept. to build fences that negatively impact migrating wildlife. Also, the public should be given the opportunity to, through the hearing process, to comment on the necessity and benefit of each BLM/Highway Dept. agreement and each proposed and existing fence. If this were to occur, I believe that most all approved fences would be built to BLM standards, which would be much less costly than currently built fences. In special areas, for example, Nugget Canyon near Kemmerer, highway fences should be constructed to both provide for public safety as well as provide for wildlife movement. Where impassable fences have been built BLM should require the Highway Dept. to build earthen overpasses (underpasses are not usable by wildlife during severe winter weather) or other devices to provide for wildlife movements across highways. It now appears that the Highway Dept. is in gross violation of the Unlawful Enclosure Act. BLM should enforce the provisions of this act and work with the Highway Dept. to correct this situation. Why does BLM currently allow the Highway Dept. to build

fences that prohibit wildlife movement without any mitigation to correct the situation? What is BLM's time table for correcting this situation?

24 The BLM should also require the Wyoming Highway Dept. to plant species along highways that are not palatable to big game species. Seed is available for low growing, mat forming species, that would not need mowing each fall. This would save the taxpayers much money. This money could then be used for beneficial purposes, such as wildlife mitigation, needed road repairs, etc. The BLM should also monitor the Highway Dept. Many of their projects cause unnecessary erosion, needlessly destroy scenic areas (for example, the beautiful area just west of Little America on I-80) and degrade rivers and streams. These types of projects need to be prevented. They need to be watched. This is public land, the BLM should not give the Wyoming Highway Dept. carte blanche permission to destroy valuable resources in the name of progress, public safety, or any other name.

AIR QUALITY

25 BLM seems to take an apologetic approach to air quality, saying that other agencies are responsible for air quality. Balderdash! This is simply a cop out. BLM has the power and authority to make great improvements in the air quality of the resource area. BLM should take an active roll in ensuring good air quality in the resource area, similar to what the National Park Service is doing on lands administered by that agency. BLM issues a great number of licenses, permits, etc. in which the BLM could require that air quality degradation be prevented and/or mitigated. I recommend that this occur.

I urge the BLM to become involved with and participate in a study currently being planned by the Wyo. DEQ/AQD to determine the status of air quality in the Green River Basin and to determine the various sources of air pollution in the area. Is BLM aware of this study? What involvement has BLM had to date? What roll does BLM plan to take in this effort?

COAL DEVELOPMENT

26 I strongly disagree with the preferred alternative's recommendation that allows coal mining in crucial big game winter ranges and

Comment Responses

201-23 The Wyoming Highway Department is charged with assuring public safety on Wyoming roadways. Title 23, a federal law, allows states to apply for a highway through the Department of Transportation. Under the Memorandum of Understanding with the State of Wyoming, the state is responsible for safety from the legal standpoint. The State of Wyoming has the responsibility in determining fence standards and where fences are needed for public safety. The BLM can only recommend the types of fencing to be used.

During the Highway 28 Farson Fence controversy a few years ago, the BLM, Wyoming Department of Transportation, and Wyoming Game and Fish Department worked together; and no fence was built.

201-24 The State of Wyoming has sole jurisdiction for the seeding of highway rights-of-ways.

201-25 See response to comment 188-46.

201-26 See response to comment 11-6.

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parturition areas. Alternative C is a much more palatable and reasonable alternative. It should be noted that coal, oil and gas, coal bed methane and other non-renewable resources are not going anywhere. They will be there until they are developed and used.

Non-renewable resources should only be developed where they would not unreasonably impact or destroy other important resources. If current technology cannot guarantee that proper mitigation to these other important resources can be accomplished the BLM should place the coal, oil and gas, etc. off limits to development until such time as the technology exists to develop the resource in an environmentally sound manner.

OIL AND GAS LEASING AND DEVELOPMENT

- 27 Again, Alternative C is a much more palatable and reasonable alternative than the preferred alternative. I recommend that as stated in Alternative C that wetlands and riparian areas be included in the NSO stipulations for oil and gas leasing.

WATERSHED/SOILS

- 28 I strongly concur with the objective for improving watershed and soil conditions within the resource area. It appears however that many of the management actions stated for the management of other resources are in direct contradiction with the stated objectives for improving watershed and soil conditions. Please note that all of the stated objectives for improving watershed and soil conditions could easily and economically be aided or totally accomplished simply by reducing and/or eliminating livestock from BLM administered lands. Other actions that would aid in accomplishing the stated objectives include setting stricter standards and stipulations for road and culvert construction and mitigation of existing poorly built roads.
- 29 It states in the document that stream sediments, phosphate and salinity reductions are proposed "where possible." It is of course possible to reduce sedimentation, phosphate and salinity loading in all locations, if only surface disturbance impacts in the drainage are reduced or eliminated. Is BLM serious about making these reductions? Please identify areas in particular need of these reductions and BLM's plans for mitigating erosion, phosphate and salinity loading for each of these areas. Also, please provide in the Final EIS a map showing ground water quality and BLM's plans for

201-27 See response to comment 94-2.

201-28 While total elimination of grazing from BLM-administered public lands would assist in the meeting of land quality objectives, it is not practical. Timing and redistribution of grazing have proven to be effective methods of land health improvement. The BLM has an ongoing program of monitoring and improvement in grazing practices. The same is true of roads. All new BLM-sanctioned roads have strict design criteria. The ongoing process of upgrading or reclamation of existing substandard roads will continue.

201-29 These areas are identified site specifically during activity planning. Groundwater quality maps are not available at this time.

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ensuring that ground water is not degraded. Please provide watershed management plans for the areas identified as being in a degraded condition.

- 30 The preferred alternative states that BLM's goal is to have at least 75% of streams and associated riparian areas in good shape within 10 years. Ten years from when? I request that a base line date of Jan. 1, 1993 be used. This objective could most easily and economically be accomplished simply by eliminating livestock grazing. What are BLM's plans for improving the condition of resource area streams?

FOREST RESOURCE MANAGEMENT

- 31 Where did BLM come up with the proposed harvest levels given in the various alternatives? These numbers seem to be another example of numbers being pulled from the air. What is your justification for increasing the maximum clear cut size from the past indicated maximum of 10 acres to 25 acres? What is the current and projected area need and demand for poles and other minor uses of forest products? If these questions can not be adequately answered, increased harvest activities should be curtailed until they are answered.
- 32 I would make the following recommendations: First, maximum clear cut size should remain at 10 acres unless it can be shown that wildlife thermal and escape cover would not be harmed by larger clear cuts. Replacement seeding with trees that are designed for harvest should not be done. Natural succession should be allowed to take place where ever possible. In special cases, clear cuts could be seeded with forbs, grasses and/or shrubs to start the successional process. Very productive aspen communities have been particularly depredated in the resource area, mostly by livestock grazing and suppression of fires and also from seeding clear cuts with coniferous species. Aspen communities should be allowed every opportunity to redevelop. In many cases this can most easily and economically be done, simply by letting nature take its course (coupled with reducing or eliminating livestock grazing). Not reseeding the clear cuts with conifers will greatly aid in increasing the bio-diversity of the area.
- 33 Construction of roads for timber harvest should not be made with federal dollars. Also, logging roads should be reclaimed in most instances after harvest is complete, again, not with federal dollars. In keeping with current national trends and public will, no below

201-30 See responses to comments 95-3, 190-8, and 197-9. Please note the clarification of the riparian objective in the text.

201-31 The calculations in the RMP are derived from a forest inventory. This gives a sustained yield possible for the Resource Area; however, considering other resource restrictions, a lesser amount will be cut.

The size of the clearcut unit is not as important as making sure there is adequate timber remaining for thermal and hiding cover for wildlife and the unit gets reforested. Every situation is different; if there is a disease problem, a larger cut area may be recommended.

The local demand for minor forest products has been supplied in the past. If the demand becomes great enough to be detrimental to the forest then the demand will not be met. Also see responses to comments 171-5 and 172-3.

201-32 There are situations when clearcuts are seeded with forbs and grasses to hold soil and provide forage for animals. In some areas grass comes in so thick it precludes the growth of tree seedlings. Clearcuts are re-established by natural seeding or planted with the predominate species that was logged.

There is no shortage of aspen stands and if many of these stands are not disturbed, conifers will replace the aspen unless it is an aspen site. Fire would allow the aspen to come in, but it may also allow lodgepole pine to become established.

201-33 See responses to comments 172-4, 172-5, 195-3, and 196-10.

cost timber sales should be allowed. No harvesting of timber should be allowed when soil conditions are such that they would easily erode, i.e., in the spring. Old growth timber stands should be mapped. To facilitate bio-diversity, old growth timber stands should not be over harvested. The timbered areas of the resource are small and all are important to wildlife and recreation. Timber harvest should not be done if they would harm the quality of wildlife habitat or negatively impact recreation. I request that a map be placed in the Final EIS that shows each forest type and BLM's plans for harvesting trees in each of these forest types.

FIRE MANAGEMENT

- 34** I strongly disagree with the stated objective of suppression of all wild fires. The BLM should develop a fire management policy that allows wild fires to burn naturally in areas that will not irreversibly harm other important values. There is currently little chance of wildfire causing any widespread damage. The vegetation in most areas is so sparse that the likelihood of fires spreading beyond a few acres is minimal. BLM's own efforts at trying to start and maintain "controlled burns" should be ample evidence.

SOCIOECONOMICS

This section of the draft EIS is truly amazing! As I began to read this section I quickly discovered that I was going to have to put on my high top boots. The boots weren't high enough however and I had to switch to hip waders, then to my chest waders. When I came to the section on the economics of livestock grazing I had to don full scuba gear.

- 35** The only advice I can give the BLM for the final EIS is to come clean with the public. Please give us some credit for intelligence. Realistic numbers and projections would be refreshing. Please site your sources of information.

The subpart dealing with the economics of livestock grazing was most humorous. I have never in my life seen such a massive pile of male bovine fecal matter as is contained here. Perhaps you should consult the State of Wyoming economic study that was completed just a few years ago. This study found that agriculture, in it's entirety, contributed about 6% to Wyoming's economy. Also, please

Comment Responses

- 201-34** Current policy identifies only 2 choices for handling fire occurrence:

1. Identify fire as a wildfire.

Definition: An ignition that will result in fire that does not benefit or compliment the resource management values or objectives. Fires that threaten public health or safety. Fires that threaten property. Wildfire may not be considered a management tool for resource management.

Required Action: One of three alternatives for suppression:

Control

Containment

Confinement

2. Identify fire as a prescribed fire

Definition: An ignition (planned or unplanned) that meets resource management values and objectives in which a set of parameters is defined for the management of the fire prior to the ignition. If no parameters are defined or funding is not available the ignition is considered a wildfire.

Required Action: Develop prescribed burn parameters and implement fire management activity plan prior to fire occurrence.

- 201-35** Thank you for your comment. Most economic sources are quoted in the text. All economic tables, graphs, and charts which were used for the analysis in the document are on file at the BLM Green River Resource Area in Rock Springs, Wyoming. See response to comment 185-4.

- 201-36** See response to comment 185-4.

- 201-37** See response to comment 17-6. The spring development at the Pine Springs ACEC is not slated for any future development. The spring will be monitored, and if it is determined that livestock grazing is destroying the special values of an ACEC, a decision can be made to eliminate livestock grazing. Also see response to comment 171-37.

- 201-38** Thank you for your comment.

note that according to Sweetwater County records, agriculture, again in all it's forms contributes 0.2% to Sweetwater County's taxes.

- 36** In the Final EIS when rewriting the livestock economics section please provide detailed references for you data. In order to determine the actual value of livestock to the areas economy please document the local, state, and federal subsidies provided to the livestock industry and include the cost of repairing environmental damage caused by livestock. If this is done the final economic value of livestock grazing will surely be a very large number, but I'm betting it will also be very, very red. In the final EIS please provide realistic economic numbers and please give an accounting of your references and sources of information.

SPECIAL MANAGEMENT AREAS

- 37** I have the following recommendations for special management areas: The Monument Valley area outside of the WSA should be managed as an ACEC. This is a spectacular and fragile area deserving of protection. The Natural Corrals ACEC should be retained. I also support expansion of the Pine Springs ACEC. I do however oppose further development of the spring as a livestock water source. Livestock use in this area has the potential for destroying the very reasons that this area is unique and is recognized as special and in need of special management and protection. Come to think of it, livestock grazing could destroy the special values of all ACEC's. I therefore request that livestock grazing be banned from all ACEC's.

I support retaining the Cedar Canyon and the Greater Sand Dunes ACECs. I support creating ACECs in all areas supporting candidate rare, endangered or sensitive plant and animal species. Riparian habitats and species are in particular need of protection.

- 38** I strongly support designation of the Red Desert Watershed Area as a National Antelope Range. Better yet, reintroduction of bison could be easily accomplished. As you know the last wild bison herd outside of sanctuaries existed in the Red Desert. Bison also existed in the Red Desert until the late 1960's and would be there yet today if the BLM and the Wyo. Game and fish Dept. would have had the fortitude to provide protection for the bison and to stand up against the few ranchers that graze livestock in the area. This area should be designated as a National Bison Range as was suggested by the

201

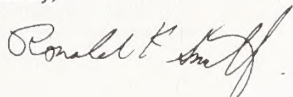
16

Sweetwater County Wildlife Association 20 or 30 years ago. I also support retaining the White Mountain Petroglyphs as an ACEC.

SUMMARY

Thank you for the opportunity to comment on this important document. Although I have pointed out inconsistencies, contradictions, inadequacies and incongruencies I do consider the document, in most cases, (livestock grazing and livestock economics being the major exceptions) to be a good faith effort by the BLM to inform the public of the various important issues. I have poked fun at some sections of the document but have done so realizing that these issues are important and serious. Please consider these comments as my effort to help you manage the public lands in the resource area in a way that will benefit the public far into the future.

Sincerely,



Renee Dana
Bureau of Land Management
PO Box 1869
Rock Springs, WY 82902

202

April 11, 1993

Subject: Draft Resource Management Plan & Environmental Impact Statement for Green River Resource Area
Dear Renee,

Many Americans would like to imagine our collective image as a rendition of "Superman" (lean, mean force for truth, justice, and the American way). Too often, our demeanor more closely resembles that of "Jabba the Hutt."

Discipline and self-restraint are rare and admirable qualities in bureaucracies, corporations, and people. Unfortunately, many government agencies don't value resources to reflect these qualities when setting policies and pricing.

I am convinced that America's unspoken/unwritten energy policy now is: to leave all but our most abundant energy sources (coal & natural gas) in the ground until the price goes up. Wise or not, this seems to be our national course.

As long as this course is to be followed, I see no reason to disturb vast expanse of wilderness, that won't be developed in the foreseeable future. Wild areas take longer to heal or reclaim than gas wells take to drill and produce, so going slow is smart.

1 A fifteen to twenty year use plan should set priorities on developing those areas that bring almost immediate economic returns, without sacrificing vital wildlife habitat, or scenic river corridors.

Future technology may allow exploration, development, and production of resources with much less impact, and lower cost than possible today. Future circumstances may make underground reservoirs in-the-ground treasures.

Areas of critical environmental concern (ACEC), and wilderness study areas (WSA) in the Green River Resource Area must be given special consideration. Protecting special places for future generations, can and must be done.

Wild and scenic river corridors must be kept wild and scenic. Please don't allow destruction of special areas.

Crucial winter ranges and calving/fawning areas for big game animals also deserve special attention. Please don't endanger herd populations by allowing intrusions at critical times.

2 These concerns should not be taken as being against mineral production and exploration. I am against sell resources too cheap, & too fast. The U.S. BLM must balance taxpayer needs, with developer's and conservationist's desires. Winning bidders paying market prices, allocates resources. Taxpayer's deserve full value for goods & services rendered.

Limiting developer's access to the most promising areas not critical for wildlife, or containing scenic rivers will limit supply. Indiscriminate dumping of "cheap" resources on glutted markets doesn't do anybody any good.

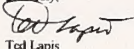
Maximum value can only be realized when seller (taxpayer's agent) gets the highest possible price for materials & user fees. The taxpayer's agent must be prepared to withhold goods from market, to achieve maximum values. Rationing the amount of land available for exploration and production will benefit everyone in the long-run.

Real supply side economics means limiting supply, to so demand can set healthy sale prices. Wyoming does not need another Powder River Basin (PRB) episode. Coal producers there got what they asked for, only to realize too late, it was not what they wanted. The BLM leased so much coal in the PRB, that producer profits & Wyoming's tax base collapsed.

Wyoming and U.S. citizens lost tax revenue. The companies that took the risk of developing and producing resources saw their rewards diluted. Cheap resources are not treated as carefully as valuable ones, so waste is more common.

I hope Green River's most productive areas are developed, as long as care is taken to minimize impact. Highly speculative areas, WSA & ACEC areas, and marginal mineral production areas, should be set aside. BLM discipline is required to maintain orderly markets, and maximize resource values for everyone.

Sincerely,



Ted Lapis

Copies: Bruce Babbitt - Secretary of the Interior, Jim Baca - Director BLM, Hazel O'Leary - Secretary of Energy, Laura D'Andrea Tyson - Chair, Council of Economic Advisers, Kathy Karpan - Wyoming Secretary of State

202-1 Although we have not "set priorities," the plan does analyze areas where there is a high probability for future development. Yes, we agree that future technology could minimize impacts to the resources. ACECs are given special consideration within the plan. WSAs are considered in the existing Rock Springs District Wilderness EIS. This RMP describes, in detail, the sensitivity and special management of wild and scenic rivers and crucial winter ranges and calving/fawning areas. Also see response to comment 99-7.

202-2 At present, all mineral activity on public lands within the Green River Resource Area is from leasing or selling of the salable mineral(s) within these lands by BLM. In leasing or selling mineral(s), BLM is charged with attaining fair market value.

203

Craig Kesselheim

phone:

Renee Dana, Team Leader
Bureau of Land Management
P.O. Box 1869
Rock Springs, WY 82902

April 10, 1993

Dear Renee Dana,

1 I am writing to encourage the BLM to select Alternative C in its Resource Management Plan for the Green River Resource Area. Your current deliberations and call for public comment should encompass the concerns of all the public, and should show your agency's ability to manage such rare and fragile resources as those found in the Red Desert for the welfare of all.

My distance from Wyoming should carry the message that the public impacted by your decisions is indeed a vast group, and that even on the coast of Maine people hear about and care for such unique areas as the Red Desert. Truly, there is only one such place in our country. Its human history, its geological features, its wildlife and plant communities - all need your careful, long-range stewardship.

2 My family and I lived in Wyoming for nine years, and in each of those years we enjoyed some attribute of the Red Desert. I served on the BLM's Rock Springs Citizen's Advisory Council in the latter part of the 1980's. I served on the Governor's Blue Ribbon Task Force for Wildlife Issues in 1986-87. I am well aware of many of the forces and interests which pull and tug at an agency such as yours. My major "vote" in this issue is to remind the BLM that recently your agency, in response to changing public values and pressures, has been working to shift its image. You seem to be claiming to have become more even-handed in managing all the "users" of your resources equitably. *Show us now. Prove it in this case.* Show the public of the United States that the BLM is not more prone to extract than to it is to preserve. This unique resource area is worth all the protection you can provide it.

Thank you for this opportunity to comment. Please keep me apprised of your final decision.

Sincerely,

Craig Kesselheim
Craig Kesselheim

Comment Responses

203-1 See response to comment 94-2.

203-2 Thank you for your comment.

204

April 18, 1993

Renee Dana, Team Leader
Bureau of Land Management
P.O. Box 1869
Rock Springs, WY 82902

Dear Dana,

We would like to comment on the Green River R. M. P.

1 We are opposed to special designations of U.S.A.s Oregon Buttes and Honeycomb Buttes; special recreation areas; and special designation of historical trails.

Our entire state is made up of special places and when we emphasize a few areas in particular we have the immediate effect of overcrowding due to the Wilderness label. At the same time, as we put restrictions on more and more "special" areas we increase and concentrate use in the un-restricted areas. An example of this form of management was the use of many special permit areas by the Wyoming G & F Dept. The non-special permit areas were overrun with hunters and that form of management has since been largely abandoned

Sincerely,

Rob & Martha Hellyer
Rob and Martha Hellyer

204-1 Thank you for your comment.

205

April 10, 1993

Renee Dana
Team Leader
BLM
P.O. Box 1869
Rock Springs, Wyo. 80902

Dear Ms. Dana:

1 I am writing in support of the preferred alternative in the Draft Environmental Impact Statement for the Green River Resource Area. After reviewing the four alternatives the preferred alternative has the best overall plan for environmental protection and multiple use although I view it as being somewhat to restrictive for mining, oil and grazing. The proposed ACEC in the preferred alternative for the South Pass Historic landscape is far to large and should be reduced to no more than approximately 2000 acres or eliminated altogether. I also do not support the retention of the ACEC at the Oregon Buttes nor do I believe that the federal government should be allowed to acquire any additional State or private lands in the area.

I see alternative "C" as the least desirable and most damaging of the four possibilities as it attempts to limit potential management tools, lock out almost all new commercial use and too many acres are included in unnecessary "ACEC"s.

Sincerely,



Steve Wiles

Comment Responses

205-1 See responses to comments 94-2 and 97-4.

206

April 14, 1993

Doug Samuelson

Gene Kinch
BLM District Office
P.O. Box 1869
Rock Springs, WY 82902

Subject: Green River RMP Comments

Dear Mr. Kinch:

I am taking this opportunity to comment on the Green River RMP that is currently being discussed. Until recently I worked as a wildlife biologist for the Wyoming Game and Fish Department and spent considerable time developing habitat maps and land use plans for your area of Wyoming. My major concern with the entire project has been the way that crucial winter range designations have been determined and the lack of consideration given to the increased production of oil and gas.

While at the G&F our goal often was to stop development of any kind on public lands. The easiest way to throw a kink into planning was to designate an area "Crucial". All it took was a pencil line on a map and we had the power to cost companies millions of dollars and hopefully discourage them from drilling or mining. The designated areas of crucial habitat for deer and antelope are probably the worst in the southwest part of Wyoming. If you divide the square miles of crucial habitat by the five year average big game population, you will see that in some herdunits there is a density of less than one antelope or deer per square mile, by far the lowest in Wyoming. The Sublette antelope herd ranks the lowest in density on winter range of all 57 herds in Wyoming.

1 The BLM seems to use the data of crucial designations without questioning the scientific evaluations that went into these designations. We used to guess where crucial habitat was and then put a buffer around it and for good measure buffer that. What is truly needed to designate crucial habitat is the use of your GIS personnel to overlay population distributions, vegetation, and topography maps. Ground truthing has never been done on most of seasonal habitat designations. The G&F has never used their GIS

206-1 In reference to big game crucial range designations, our wildlife personnel have monitored actual big game use on these areas over a long period and generally concur with the WGFD designations. Public land use activities (e.g., ORVs, mining, etc.), changing use (e.g., sheep grazing to cattle grazing), and new facilities (e.g., new highway fences, allotment fences, new waters, etc.) are altering big game use patterns.

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for anything like that so their crucial designations are not defensible and the BLM is making a mistake by using them without question.

- 2 I am currently conducting a study that will show that antelope populations have increased due to two major parameters. The first has been the development of stock-water reservoirs at over 80,000 locations in the state. Many of the sites are in the Green River RMP. The second has been the climate changes that have taken place over the last 100 years. The Game and Fish just finished a study on the effects of winter drilling on crucial winter range near Casper. They were very disappointed that they could not show an adverse effect to the wildlife populations so the report was not publicized. I think it is wonderful news, maybe we can have it all, natural resource development, agriculture and wildlife.

Natural gas development will not harm our tremendous wildlife populations but will help our ever growing government keep providing the services we demand. Bad winters and drought have been killing antelope for thousands of years and the oil industry was not here then. I do not want to freeze in the dark or ride a horse every where I go. We need fuel for our homes and cars and Wyoming is in a position to supply natural gas to the Nation. I strongly favor an RMP that looks to increase our states revenue, not an RMP that is only catering to the vocal preservationists.

Sincerely,

Doug Samuelson
Doug Samuelson
Biologist

Comment Responses

206-2 See response to comment 94-2.

207

4-12-93

Renee Dana, Team Leader
BLM
PO Box 1869
Rock Springs, Wy 82902

Ms. Dana-

- 1 I wish I could comment in detail on the specifics of the Draft Resource Management Plan and EIS for The Green River Resource Area. However, I really don't have the stomach or the time for studying such things to the extent necessary. I prefer to spend as much of my limited free time as possible hunting, hiking, and paddling with my family in the Wyoming outdoors.

I just hope that, in considering the course of future management of this area, you will give highest priority to wildlife, scenic values, wilderness, and clean air.

Sincerely,

Douglas Woody D.V.M.
Douglas Woody, D.V.M.

207-1 Thank you for your comment. However, public participation is an integral part of public land management. The more input we receive, the more sensitive we can be to the needs of the public.

February 16, 1993

U.S. Department of the Interior
Bureau of Land Management
Rock Springs District Office
P.O. Box 1869
Rock Springs, WY 82902

Attention: Renee Dana

Dear Ms. Dana:

My name is Lynn Jackman and I have provided most of the topsoil for the people of Rock Springs and Green River since approximately 1974. I am writing this letter to let you know that my current stockpile is almost non-existent. I would very much appreciate your consideration of Alternative "B" as described on page 48 of your Draft Environmental Impact Statement. The areas previously released for use were approximately 600' X 600' (8.25 acres), which would last 1 to 2 years.

1 I would like to suggest that the A-1 layer be removed and stockpiled, then retained for reseeding and contouring. Layers A-2 and A-3 layers would then be mined. Page 598 of your Draft Environmental Impact Statement expressed concerns about the depletion of topsoil and the necessity of the establishment of new sites if County pits were used. I believe that County pits would cause a number of problems.

1. No one person would be responsible.
2. The digging areas would be uncontrolled.
3. There would be no control over vehicles in the area.
4. No one would be responsible for recontouring.
5. No one would be responsible for reseeding.

Under a commercial pit, the advantages to the Bureau of Land Management would be:

1. Removal of the A-1 layers for stockpile and redistribution.
2. Mining and controlled access.

208-1 Page 598 of the Draft EIS discussed Community Pits. Under Alternative B, topsoil sale areas would be allowed and opened up; under the Preferred Alternative topsoil would be conserved and no topsoil sales made.

3. Recontouring to control erosion.
4. Reseeding and a guarantee of growth.
5. The contractor could put up a bond to guarantee that above were complied with.

I believe Miller Mountain has approximately 7 square miles that would be usable under controlled conditions at the rate of a 600' x 600' (8.25 acres), every year. At this rate, the reserves would last approximately 543 years, far longer than our projected coal, gas or oil reserves.

I know this would not be a great source of revenue; it would probably be more of a thorn in your side, considering the amount of paperwork that would accompany such a project. However, it would help make Green River and Rock Springs a little bit greener and a nicer place to live. I believe my suggestion deserves your serious consideration.

Sincerely,

Lynn R. Jackman

209

(transcribed and typed for readability)

Robert C. LeFaivre
LeFaivre Millsite
Star Route 2 East (584)
Rock Springs, Wyo. 82901

March 1, 1993

Ms. Renee Dana
Team Leader, R.S.D., B.L.M.
P.O. Box 1869
Rock Springs, Wyo. 82902

Ms. Dana:

re: GRRR. Mgm't. Plan

1 Receipt of draft of resource management planning, for environmental impact (EIS), **prompts comment** upon inholding of private mineral estate in Sweetwater County, NW1/4 Sec. 18-21-101 (WYW 210250/WMC 233531 - Flow Lava No. 1). Site specific directed comment.

Please understand that any and all management designs directed toward the goal of unilateral control of mineral estate, as privately appropriated with associated surface rights and entitlements (associated directly and/or indirectly), are vehemently opposed. Noticably lacking, in appreciation of private rights in public landed-mineral estate, are your necessary acknowledgements of the preempt authority of miners about their private holdings. Incorrect geologic appreciation of mineralization held under mining claim is challenged for lack of either depth or logic in view of General Mining Laws.

Your attitude of administrative interpretation of the mining laws of the United States is particularly alarming in view of post mineral entry designation of the "Natural Corralis" ACEC and subsequent designation therein (twelve acres) NRHP. The exemption of miners, from such designated special concerns (and more especially so in light of ongoing litigation (WYW 114256 and WYW 123560)), is accordingly deemphasized by your non-chalant treatment of private authority about personal property held under Wyoming State laws - in compliance to the General Mining Laws. Not surprising in light of the intrinsic fraud of BLM in the matter of due process mine permitting as experienced in the instance of complaint of agents of BLM under Western Wyoming College auspices of matters archaeological. Less appropriately, the avoidance of due (now long overdue) site clearance, for quarry, remains outstanding within the record of interrelated matters of denial of quarry permit and ongoing validity contests ripened for decision.

Expanded effort to curtail minerals development, in preference to public placement, of select private holding, is denounced. Enhanced public use, as by BLM select designations over

Comment Responses

209-1 It is not an abrogation of the rights of a mining claimant for the BLM to make land management decisions over public lands that include mining claims. The Surface Resources Act passed by Congress July 23, 1955 allows the Federal Government to manage the resources of an unpatented mining claim. Making planning decisions for lands including mining claims is not an infringement of the private property rights of a person holding a valid mining claim.

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Cont'd

private property, is also a matter at issue. You lead authority is urged to ascertain the conflicts of purpose of law superimposed upon private authority preemption and exemption from "double" agent activities in the situate quarry authority of mining claimants. It is apart from your jurisdiction, as well as need in planning otherwise, to assume (as has been done) such mining claims (as held by the writer) are of inconsequential importance to the area plan in view of mining law *per se*. No evidence in geology, and more especially so mineralogy/petrology, supports such opportunistic area management planning. Depending upon the blind to show truth is not unlike expecting miracle upon blunder. Correction/errors should predate final plans, as by this comment.

Absolute dictation is espoused when BLM proceeds to plan for minerals development under a tripartite scheme (with pseud-fourth alternative) without either detailed geology and/or crystal ball gazing as a means of knowledge. The purpose of balanced planning is lost in the highly arbitrary approach taken toward matters mineralogic. Environmentalism is esconced in the planning process, to the detriment of extractive minerals industry. Leasable mineralization is given preference to locatable mineralization as concerns enterprise in general.

Reflection upon claimed valuable mineralization is in light of denouncement. Required mitigation of accepted mine plan, in view of viable matters under antiquity laws, about Natural Corralis area, has been avoided. BLM yet has the obligation, as by accepted plan, to site specifically clear plans for quarry. Such controverted quarry, over preemption of miners, is unacceptable.

Exemption [sic] from reclamation bonding, about a mining claim, is asserted and will be used should BLM continue to avoid duty to mineral entymen.

Lava, about Flow Lava No. 1, is admitted by BLM to be uncommon variety - orendite. Wyomingite deposition, otherwise held by the writer is known to be rare variety igneous rock. Both uncommon and rare rock is proven valuable building stone source. Validity (all such placer mining claims) about the Emmons-Zirkel Mesa's area is foregone fact, based upon valuable mineral source claims.

Government does not have authority to, as is BLM capriceously doing, plan for future land use over privately appropriated mineralization. Especially so in the instance of Flow Lava No. 1; whereas, the claimed building stone source is the dominant surface land form. Soliciting enhanced public use, of privately appropriated rock source, is not unlike ignoring the law of mining in favor of post mining entry designs which directly conflict with private holdings held in association. Demonstrative of a administrative taking, acts of and omissions of government (state and federal) remain subject of review as by right. Intrinsic fraud remains the undeniable authority for review in competent cour of federal jurisdiction. State Environmental Quality Council can not deny minerals development about federal lands subject to the operation of mining law without due compensation and in absence of due compensation denial of mining permit is void ab initio. BLM procedure herewith denotes inertia about the subject landed-mineral estate. The conspiracy of governments (state and federal) can not deny the existence of prior established authority of private enterprise as by accepted plan.

209

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Cont'd

Prejudice of personnel in BLM, in matters of mining claims, is a most obvious (but clandestine) matter for which justice is lagging. ACEC is outstanding example in the post mining entry regime. At this juncture of ongoing litigation, pertaining to due Process, grand plans of G.R.R.A. seem preposterous [sic], as concerns minerals development as by private rights, when the agency track record denotes prejudice, fraud and overt ignorance of matters pending. A mining claim remains a private right in property until extinguished by judgement in proper court of law. Title, in the interim period of litigation, remains in trust with BLM. Endoubled activities of BLM thus appear ambiguous as well as in opposition to law. First in time denotes first in right. Government offered mineral lands, for discovery of valuable mineral, to be developed. That same government plans so as to deny fact in favor of double agents personal desires, in opposition to law, as pertains to archaeology specifically not qualified to prohibit quarry.

Regulatory blundering has been overlooked in favor of a regulatory attitude which is contrary to law. Emotion, as from erroneously projected archaeology, has been used to avert law, rule and regulation Environmentally extraordinaire. Implementation of surface management of federal lands, by initiative under fraudulent adversarial approach to due process, in, on and about minerals, is held to be a most outrageous and egregious miscarriage of justice - as well as aberrant outlook in future planning.

This central focus of attention upon minerals authority is specially drawn to your attention due to lack of proper consideration in planning for future lands use. Your indulgence is requested so as to cause dialogue in future planning. Current Interior Department Administrative decisions awaited are held to be unnecessarily protracted, i.e., WYW 123560 over WYW 114256. Neither District of Rock Springs nor State BLM projections of reasoning in validity challenges are deemed to be substantive deterrents to plans of development as by accepted plan, excepting appropriate mitigation of quarry site selections about Flow Lava No. 1.

Immediate reply and conference is anticipated resource management plans relative to mineral properties *per se*. Consequential avoidance of issues relevant may well be expected to complicate further anti-development planning - about private estate being herein scrutinized. Overt action may be required in absence of dialogue. Delay experienced is considered biased treatment in due process as is planning by your team envisioned to be without due regard for private authority.

Sincerely,

/s/ Robert C. LeFaivre

